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No. 7.

A DESERT HOSPITAL AT WORK.

By Lieutenant-Colonel R. Macdonald, M.B., Ch.M., R.A.M.C.,
Medical Officer, Northern Section.

"Two hundred and fifty serious cases for you at 14.30" (i.e., at half past two), so read a telegram handed in to the commanding officer of a stationary hospital in the desert, somewhere on the railway line, near the border of Palestine. A stationary hospital is defined as a medical unit which is located on a selected point on the line of communication, but the writer's definition is that a stationary hospital is a stationary hospital when it is not moving, and that its elasticity should have no limits.

The message above mentioned has the like effect on the medical officers and the personnel of a hospital as "prepare to receive cavalry" has on infantry. For two weeks this unit in question had been erecting, after a long journey, sufficient tentage on the sands of Egypt for accommodating 800 beds in anticipation of such an order, and had only barely finished equipping their beds, carrying their stores under cover and arranging the hundred-and-one necessities that a hospital which, in civil life, would be reckoned a large one, requires. How much more difficult it is to prepare a hospital in the desert, where everything has to be transported by sea carriage, railway, camels, and even men before it is finally placed in position, can be left to the imagination; then suddenly a move further up is ordered, and destruction and construction once more takes place. Few people realize the wastage that takes place in medical units. The men work every day alike; apart from leave there are no holidays, no withdrawal to rest camps; there is always night work, and monotony is more prevalent with them than with most. Hence, when a sudden demand comes, a unit is considerably under its normal strength, on account of what is often called "the exigencies of the service," which phrase, by the way, has more curses showered on it than any other. Rapidly the news of wounded to arrive spreads from the medical officer to sergeants and orderlies. What matter it that the men had put in two weeks' hard work, carrying heavy marquee tents and heavy equipment ankle deep in sand, straining at ropes in strong winds, erecting large tents, levelling the uneven ground to make comfortable bed sites. All hands professed to be ready for any emergency. As soon as the train arrived, an universal keenness was immediately noticed, a subtle change in the demeanour of the men became apparent to anyone who cared to observe them. Those who usually have duties to perform apart from attendance and transporting sick, such as men employed distributing and storing rations, volunteered to do the heaviest jobs, such as carrying the wounded on stretchers. A wave of sympathy, imperfectly concealed, spread through the

unit like an electric current; their imagination was stirred; fellow-men seriously wounded, some probably dying, were coming from the front, where for days before they could hear the booming of the guns, men who had been carried on sledges, limbers, camels, horses or hurriedly carried by their mates over the soft sand before arriving at the train, men who had suffered from heat, the torture of thirst in transit, men with broken limbs hastily attended to, and so every man forgot he was tired and overworked in his desire to serve. Meanwhile, preparations for unloading, feeding, washing, dressing and recording the patients proceed hurriedly; then the usual cry: "Here she comes." The train steams slowly in and comes to a standstill opposite the middle of the hospital site, and immediately the workers jump up into the carriages. The "walking" patients are assisted down steps, as there is as yet no platform, and sit down quietly, as they are slightly wounded only. These being now out of the way, stretchers are handed up, the "cot" patients tenderly lifted on and passed out to four men, who take the stretcher at the level of their heads and lower gently. Immediately two strong bearers convey the patient to the receiving-room, where one or more medical officers quickly examine him, while a staff of clerks take particulars of name, age, unit, number, religion and nature of injury; then the final step follows—to bed. In less than an hour the train is empty and free to return for more. The "walking" cases are now disposed through the reception-room. Meanwhile, urgent cases are operated on, the more serious cases attended to by every available medical officer in the different wards. All orderlies are now working at their top speed, but with all there is a feeling of calmness and an absence of excitement which spells efficiency and betokens the trained man. The large marquee ward, holding fifty patients, divided by its food distributing tent from another of similar size, presents a picture difficult to describe in detail. There are men bathing in the "altogether"; others washing by sections, or being washed; men having compound fracture set under an anæsthetic, men smoking and talking battle, men being dressed for every conceivable variety of wound, and finally the slightly injured washing others so as to relieve the orderlies. The evening is now drawing to a close, and two men are detailed to furnish the electric lighting which is supplied to each ward. The orderlies, partly from tiredness and partly realizing the work is well in hand, are perceptibly slowing down; they are dripping with perspiration, as the day has been exceptionally hot, and they look a shade worse than the patients. All the "admissions" have had a hot meal, and the "fags" are blazing uniformly from rows of beds. All has passed off smoothly and harmoniously, with the exception of the inevitable growler, who contrasts so markedly with the fortitude of all.

"Can't I be dressed and get something to eat," he remarks, and the medical officer, who shortly afterwards examines him, raises a universal laugh by humorously directing he should be attended to immediately, as his is the least serious case in the ward. All patients are treated prophylactically against tetanus; all in pain are given sedatives. They are all very tired and comfortable; whole batches heave a sigh of utter contentment which does one good to hear, and drop off to sleep suddenly. Before "lights out," there is not a man awake. Next morning a further 300 arrive; but "that is another story."

IMPRESSIONS OF COUNTRY PRACTICE.¹

By J. Goodwin Watson Hill, M.B., Ch.M., Syd.,
Temporary Assistant Surgeon, Sydney Hospital.

When our Secretary asked me to be prepared to read a paper at this meeting the selection of a subject gave me furiously to think. I felt that, on the purely scientific side of our profession, I had little of interest or information to place before you, so I have taken the liberty of recording some of my impressions of medical practice in the country, indicating a few of the finger-posts that directed my faltering feet in the paths they should tread. By the end of my second year's residence in hospital I had made up my mind to seek a country practice, and an opportunity promptly presented itself of purchasing a practice in a typical small country town endowed with an excellent hospital. To the youthful practitioner, fresh from the Medical School and hospital, and installed in a strange township, the character and personality of his professional colleagues is a matter of the deepest moment. In this matter I was extremely fortunate, in that my colleague was a gentleman of the *vieux régime*, who showed me a fine punctiliousness in medical ethics and a genuine personal friendship, a man, further, who through twenty-five years of practice in one town had yet kept fresh and verdant his zeal for his profession and his interest in its latest developments. In order that my education in medical conduct should be complete, the "horrible example" in all its phases was portrayed by sundry other practitioners who from time to time practised in the town, provided the inhabitants with the subject-matter for a wealth of anecdote and then faded away.

The value to me of country practice lay in this, that responsibility for one's patients could not be shifted on to other shoulders, however much one would have liked assistance and advice, and however diffident one felt, at times the best interest of the patient demanded one's instant personal endeavours. When I went to the country I had never once applied the forceps; all the midwifery cases I had attended as a student and as a *locum tenens* had been monotonously normal. Consequently, when faced with my first case of eclampsia, twenty miles from town, in a small hut in which were congregated all that was elderly and ignorant among the females of the vi-

cinity, I felt indeed that loneliness of spirit which is the lot of "the only pebble on the beach." The forceps were applied, the cervix was torn, likewise the perineum, the child was born alive, but expired after a fitful existence of six hours, the mother lived to bear several more children, the father paid the bill and I learnt a lot.

The greatest trial of my obstetric practice was the old woman who made her living as a midwife. Such an one I remember showed her care for the patient by sanctioning the visits of blow-flies to the perineum, with the result that I had to poison off a healthy and vigorous brood of maggots. The patient recovered, but will someday provide work for the perineorrhaphist.

In miscarriages I found very little need for the curette; perhaps that was due to the fact that the first patient who consulted me for this condition gave a history of having passed a small foetus. I sent her to the local obstetric nursing home, and while "sparring for wind" I gave her *mistura ergotae cum strychnina*. Next day she passed a beautifully complete placenta, cast in exactly the shape of the uterine cavity. Consequently, I made that a routine for several years, and very rarely did I curette for miscarriage; not once did I use an intrauterine douche for a miscarriage, and only once in a parturient woman who had suffered the attention of one of the "horrible examples" above referred to.

In the city the dangers of sepsis, both autogenous and extraneous, render curettage almost a routine treatment.

Of post-partum complications the most interesting was the case of a woman whom I was called to see six days after delivery. She was in the throes of the most violent rigor I have ever seen; it lasted about fifteen minutes, the temperature reached 41.1° C. (106° F.). She had several such rigors; her temperature almost touched 41.7° C. (107° F.). I found nothing definite *per vaginam*; I administered quinine mostly for the sake of doing something, and ordered vaginal douches. She recovered, and has had several normal pregnancies since then. An eminent surgeon happened to come to a neighbouring town soon after I had seen her, and I described her case to him. He said the condition was undoubtedly one of septic thrombosis of the pelvic vein, and the best treatment was to open the abdomen and excise the thrombosed vein. I felt that there were realms of surgery where angels might justly fear to tread.

I met no cases of *placenta praevia*; the only case approaching it was one of a woman eight months pregnant, who celebrated Xmas Eve by obeying the call of the Mock Turtle to "join the dance." The result was a profuse hæmorrhage. I found her lying in a small, dirty hut; she was blanched, but the bleeding had ceased. I gave her a large dose of opium, and had her conveyed to town by sulky, a distance of 16 miles. On arrival in hospital I found what I took to be a marginal *placenta praevia*, so I pulled down a leg and delivered a dead foetus. The patient did well.

A question which gave me much anxiety in my earlier experiences was whether the patient would stand removal to town. I found that a good dose

¹ Read at the Quarterly Meeting of the South Sydney Medical Association on June 20, 1917.

of opium as a preliminary made quite safe the transport of such cases as the above; and after several experiences of this kind I never hesitated to take the risk of advising transfer to the comparative safety of hospital as against the danger to patient and anxiety to doctor of leaving patients so seriously ill in their distant homes.

Of ectopic gestation I met three cases. In the first case the sac had ruptured. The patient, under the influence of opium, stood a trip of thirteen miles in a waggonette, and was operated on by me the following day. She has borne several children since then. The other two cases I thought unusual enough to report to the British Medical Association, as they occurred in sisters, and in each case the appendix was adherent to the sac, in the first case stretching right across the pelvis to the left tube, in the second case to the right tube. These patients also did well.

While the subject of ectopic gestation was occupying a good deal of my attention I was called to see a woman in a small abandoned mining camp in the mountains outside the town. After a very rough trip at night—such trips usually occur at night—I found the woman giving a typical picture, amenorrhœa for two months, sudden pain in the right loin, a gush of blood from the vagina and pain recurring at intervals, and on examination a mass in the right fornix. I had her brought to hospital next day; the mass was still present, but the bleeding had ceased, the pain was still present, her pulse was normal and her colour good. I thought she had an ectopic gestation which had leaked. I performed abdominal section, and found the tubes normal, the uterus the size of a 2½ months pregnancy. I believe the case to have been one of a displacement of the pregnant uterus to the right side. Had I examined her when under the anæsthetic I think she would have been saved a laparotomy. I described the case to a leading gynaecologist. He thought it probable that the uterus had come to occupy the right side of the pelvis, and pointed out that had I made sure of the position of the *fundus uteri*, the mistake would not have occurred, as manipulation would have restored the organ to its correct position. Strangely enough, soon after this I saw a young married woman who gave an almost identical history, and in whom I found a tender mass on the right side of the pelvis. I was able to make sure that the *fundus uteri* was not in its normal position, and manipulation revealed the fact that the pregnant uterus had come to occupy the right side, from which it was easily moved back to its central position.

Surgical work in general was a pleasure in the country, as the wounds healed with a readiness which to me, after casualty-room experience in a metropolitan hospital, was marvellous. I found that the public were not sufficiently accustomed to the idea of being operated upon in their own town. For generations they had been accustomed to see the majority of patients requiring operation passed on to Sydney; consequently in a number of cases consent to operate was only obtained with great difficulty and occasionally when much valuable time had been lost.

Appendicectomy was the most frequent major operation. A case of interest was one in which the symptoms strongly simulated renal colic, there being much blood in the urine. The appendix in this case was gangrenous, and closely adherent to the posterior wall over the ureter. The patient died. Another patient had a caecum and appendix of embryonic type, the appendix being a funnel-shaped prolongation of the *caput caecum coli*. It contained a piece of tooth. This specimen is in the Sydney Hospital Museum of Morbid Anatomy.

I saw one case of intussusception which ended fatally.

Such cases of fractured skull as I saw ended fatally. They were all caused by heavy falls from horseback. On looking back one is faced with the reflection that perhaps a little more boldness might have saved a life. On the other hand, when endeavouring to look forward one cannot always see that surgical interference will do any good. The problem is one which will, I think, perplex young surgeons as long as skulls are brittle.

Fractures of the long bones were not very common. The case that interested me most was one of a small Chinaman who was thrown from a van; he had sustained a compound fracture of both bones of the left forearm and left leg; the skin also of his face was peeled down from his left eyebrow to his cheek. The man was an opium eater. He signaled his recovery from anæsthesia by pulling off all splints and bandages and getting under the bed, a proceeding which he repeated on several occasions. He also developed a retention of urine, the necessary steps for the relief of which gave rise to shrill expostulation and gloomy prognostications. Hypodermic injection of morphine was useless; the hospital staff only obtained rest when I ordained that his friends were to be given a free hand in supplying him with opium. His face and leg healed well, the arm healed but failed to unite. When I left the town he was going about with his arm in a leather splint. On my return for a holiday a year later I found that his arm had united strongly, and he had a fair degree of pronation and supination.

Diphtheria was almost endemic. A routine initial dose of 10,000 units of anti-toxin was invariably successful. For some time I gave the anti-toxin by mouth, and found it apparently efficient, but in any case presenting serious symptoms I preferred the hypodermic route. I have seen several cases complicated with whooping cough and measles. One child suffering from diphtheria and whooping cough together presented me with a curious problem; during her convalescence from diphtheria her temperature suddenly began to assume a hectic type, and broncho-pneumonic patches appeared in the lungs. The symptoms and signs cleared up, and the puzzle was solved when she coughed up a large mass of cotton threads which she had drawn from her coverlet, chewed up into a pellet and inhaled in the course of a paroxysm of coughing. A curious point about the cases of diphtheria I met was the sporadic nature of the disease. During one outbreak the infectious ward was filled with patients who came from all parts of the district, widely separated, hardly

ever more than one from any one area, and only in one instance more than one from a family. On one occasion I saw a child with a sore throat which I treated as tonsillitis. I saw him once only; when next I saw his mother, some months after, she said he was quite well, but mentioned casually that for some time after he recovered he used to experience a difficulty in swallowing; liquids were returned through his nose. He was one of a large family of small children; yet no other cases occurred in that house, nor among the many children who lived in the vicinity. I only once had to perform tracheotomy for diphtheria. This patient was the only one who showed any subsequent paralysis; in his case the muscles of the back of the neck were mainly affected, resulting in a drooping forward of the head.

I found the rustic with the oat seed in his ear a curious study; after all his fellow rustics and the nearest old midwife, and subsequently the local chemist, had endeavoured in vain to remove the offending body, causing the said rustic much anguish of mind and laceration of the meatus, he would come along and after having the oat painlessly removed in about two seconds, would snort violently at being expected to pay a fee of 10s. 6d.

A case of interest was one in which there was a hectic fever, with foul sputum, areas of consolidation in the lung, and tubercle bacilli in the sputum. The case cleared up rapidly and completely when the patient coughed up one of her lower incisor teeth which a dentist had failed to account for when he had been extracting under an anæsthetic.

Typhoid fever was a frequent occurrence. I found the best results were obtained when I departed from a strict milk regime and fed the patients on broth and meat soups. The only drugs I gave were calomel, 0.03 gm. (gr. $\frac{1}{2}$), salol, 0.12 gm. (grs. ii.), sodii bicarb., 0.3 gm. (grs. v.), three times a day. I had no trouble with distention nor hæmorrhage, and no perforations. A young woman, the diagnosis of whose case was in doubt till the third week, when a very slight hæmorrhage made it clear, provided a fatality by sitting up in bed against orders and falling back dead. After this case I never treated enteric in a private house without adequate trained nursing.

Venereal diseases were practically non-existent. I saw one gumma of the liver and only about half a dozen cases of gonorrhœa in seven years—a very bad preparation for practice in the metropolis.

Gastro-enteritis in infants and young children I found gave me little trouble after I read a communication in the *Gazette* extolling the merits of a saturated solution of sodium sulphate with aromatic sulphuric acid. The same mixture I found of sovereign merit in a case of diarrhœa in an aged alcoholic. I had no trouble with acute lobar pneumonia; the condition was rare and the cases as a rule did very well. The only complication of interest was that of a woman who developed the disease one day after child-birth; she became insane, and after recovering from her pneumonia was sent to Kenmore. She recovered; but subsequent pregnancies reproduced the insanity without the pneumonia.

Only one case of empyæma presented itself for my consideration. The patient, a woman who had been under treatment for some years, with a very feeble and irregular heart, developed pneumonia. The disease ran its usual course, and then the symptoms of empyæma declared themselves. I endeavoured to locate the pus by the signs; my colleague agreed with me that she probably had an interlobar empyæma. While we were deciding whether to operate or not Dame Nature took a hand and the patient coughed up a large quantity of pus. Thereafter she recovered uninterruptedly.

The mention of insanity calls to mind a midnight contest with a husky farmer who evidently heard a voice calling upon him to pass me one under the ear. I confess that in the ensuing *mêlée* I did not adhere strictly to the rules laid down by the Marquis of Queensberry.

I found a form of ringworm which was supposed to be contracted by contagion from calves. It was amenable to anti-parasitic ointments.

I saw two cases of tetanus; one patient, a boy of twelve years, recovered without the administration of serum. When I saw him first he had slight spasms and neither sign nor history of cutaneous abrasion. As the case progressed the spasms for a while grew more violent and frequent, the abdominal muscles being as rigid as a board. I exhibited chloral and *cannabis indica*; the patient recovered. The other patient came along with spasms well marked, giving a history of having cut his hand ten days previously. We tried hypodermic injection of carbolic acid, according to the method advocated by some Italian scientist, a description of which was seen in the *Gazette*. The patient died.

Hydatid of the lung I saw in three cases; two of the patients betook themselves to Sydney for operation, the parents of the third declined operation, the cyst ruptured and was coughed up.

I saw only one gastric ulcer, which had caused hæmorrhage. The patient was a visitor to the district.

Pernicious anæmia was fatal in both of the two cases which I saw. I tried a polyvalent anti-streptococcal serum in one case without visible effect.

I saw one case of splenomegaly. The patient, a woman, was driven to consult me by the inquisitiveness of her friends, who wanted to know when it was going to come off.

Glaucoma I found in one case; it was mild and yielded to eserine and a violent purge.

The general conditions of medical practice in the country are, I think, pleasant in the extreme, and where the practitioners have been loyal to one another and to their profession and have not descended to cutting fees, it can be profitable also. While the social life of a country town has the drawbacks associated with what our naval commentators might call extreme visibility, yet a little tact and common-sense enable one to live at peace with most, if not all, of one's neighbours, and one finds also that country folk have as quick an eye for the points of a man as they have for the points of a horse.

Lodge practice in the country is beset with the same troubles as in the city; but the numbers are

smaller and the rate is higher. One finds wealthy landowners and tradesmen who demean themselves to accept medical attendance paid for by the contributions of their poorer brethren. When the conflict with the lodges arose at the end of 1913 we found many sterling characters in the lodges who fought our fight with the greatest energy and tenacity, and others who showed utter lack of gratitude and common decency. The former obtained the necessary majority.

The country practitioner can keep himself well abreast of the times if he is careful to read the journals. I found many practitioners who had been years in the country who were quite *au fait* with modern methods, but I felt personally that occasional visits to Sydney and desultory attendance at hospitals fell far short of the inestimable benefit that would accrue to country practitioners from post-graduate courses at the Medical School and our great teaching hospitals.

During my residence at hospital I familiarized myself with the technique of post-mortem examination. This I found of great value to me, *e.g.*, in Coroner's Court work in the country. I think more time should be devoted by the teaching staff to this branch of pathology. Another thing which I found helpful in my early days was the fact that a dispensary was attached to the practice which I took over. At that time any familiarity with the Pharmacopœia was about equal to my familiarity with the midwifery forceps, so I found it convenient to myself and beneficial to my patients to be able to say at the close of my examination, "Well, come back in an hour and I'll have your medicine ready." Whereupon I would betake myself to my dispensary, and, consulting suitable authorities, would turn out a preparation which I am sure was more potent and elegant than the result of a prescription which I might have dashed off under the eagle eye of a patient with an assumption of familiarity and ease which I was far from feeling.

I learnt from my experiences as a medical practitioner in the country that a masterly inactivity is often the greatest wisdom, only it requires to be masterly and not merely inactive if we are to give the fullest play to the *vis medicatrix naturæ*.

In surgical work the young practitioner who has had a term of residence at one of the hospitals has to steer between the two extremes—on the one hand of regarding all patients as "scalpel fodder," and on the other hand of fearing himself to perform such operations as the best interests of his patients may demand; and he will find operations he is performing for the first time lose their terrors in the performance.

THE PROGNOSIS OF PULMONARY CONSUMPTION. A Clinical Lecture.

By Alex. Lowers, M.R.C.S. (Eng.), L.R.C.P., D.P.H. (Lond.),
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It has been remarked with respect to any attempt to forecast the fate of a person suffering from pulmonary consumption, "whatever the prognosis, the only certainty is it will not be verified." This is,

however, one of those cynical generalizations that must always be regarded as open to qualification. Curiously enough, it holds most true of advanced cases. It is most astray in all cases as to the probable duration of life. It is common to meet with patients to whom one would confidently give six weeks as the utmost span of life, and to encounter the same patients six months or even six years later, and in apparently fair condition. Conversely, there are sufferers whose chances may be favourably put at six months, and yet who may die almost as soon as the verdict is pronounced from a sudden and unforeseen hæmorrhage. One of the most recent and striking examples of a good prognosis that was wrong is that of the late Dr. E. L. Trudeau. As a young man Dr. Trudeau was sent to the Adirondack Mountains to die, but lived for forty years after his sentence of death, and became one of the greatest American authorities upon consumption, and successfully directed a large sanatorium for more than a quarter of a century.

A young girl who presented herself at my own out-patient clinic in 1907 with a cough and apparently rapidly advancing lesion on both sides, was sent to the Austin Hospital to await what appeared to be the inevitable end. In 1915 the same patient walked into my consulting-room and asked my sanction to take a place as domestic servant in Queensland. She was still an inmate of the hospital, but had been for some years an assistant in the housework.

Some assistance in prognosis may be derivable from the mode of onset of disease in the particular patient. What is called a latent onset, that is to say, an indefinite history of ill-health and colds, extending over a considerable period of time, is usually not of cheerful import. The initial tissue resistance appears to be worn out in such a process, and when an acute phase supervenes the downhill progress is not uncommonly fairly rapid.

Some cases have what may be almost called a prodromal period of dyspepsia and anæmia, and this state may be the most striking objective phenomenon, even after pulmonary physical signs are present. Other things equal, these patients respond well to appropriate treatment, at all events for a time, and the outlook on the whole is better from such a beginning, than in the purely indefinite mode of onset already noted.

Where definitely persistent *malaise* is the beginning, as evidenced by easily induced fatigue and slight muscular aching, it may be assumed that a sub-febrile reaction is present, and that the natural resistance of the patient's tissues will be soon overcome. There is no more ominous onset than that associated with persistent slight and irregular rise of temperature.

A beginning in the larynx or pharynx is an extremely unfavourable basis for prognosis, and such cases usually progress rapidly.

A pleuritic onset is sufficiently common, and presents no very definite prognostic significance in itself. If not very extensive, in all probability, any resulting adhesions are of a protective nature, but

pleurisies occurring after physical signs are well developed, are not cheerful omens of progress.

Curiously enough, the cases which present early hæmoptysis are those which often justify the best prognosis. This is an old clinical observation, and no very satisfactory explanation has ever been forthcoming. It is frequently taught that such sufferers come earlier under treatment, and are therefore given a better chance; but it is scarcely credible that a lesion which induces hæmorrhage, is of a particularly recent beginning. Possibly the hæmorrhage into and around such softened areas induces a local clot which contracts into scar tissue and strangles the bacilli *in situ*.

Those cases which begin in the guise of some other pulmonary affection are possibly the most numerous, and vary from what was taken to be a "catarrh" or a "bronchitis" to those which simulate pneumonia. From a prognostic standpoint the first-named have usually an evil import, because the true condition has probably been overlooked and untreated for weeks or months. The second group are almost entirely "galloping" cases, and hopeless from the beginning.

It is sometimes said by medical men, and always held by laymen, that the earlier the case is recognized the more hopeful will be the prognosis. This is never true of itself. It is only true after a careful review of every factor in the particular case. In the first place, it is often forgotten that when a positive diagnosis is possible the case is no longer an early case. If bacilli are demonstrable there must be in most patients a considerable diffusion of the invasion, and if physical signs are present, the disease has already long passed its incubation stage.

The most universally unfavourable prognostic sign is the persistence of evidence of toxæmia, either mild or pronounced. An early loss of fever and return of vigour is always hopeful, while the persistence of *malaise*, fever and anorexia is the reverse.

There are two other material and fairly constant factors in influencing the prognosis of the earliest case. The first is the personality of the patient. Some individuals possess the doggedness and unemotional temperament necessary to a prolonged uphill fight; others are obviously fools from the outset, or by nature lazy and careless of detail and restive under restriction. The first-named will suffer many things of many physicians. The second class are inherently handicapped.

The family history is a matter of importance in the prognosis of many consumptives. Without entering upon any vexed question of heredity, there is a body of evidence to show that the outlook in a particular instance is bad when the family history shows one or more members dying of the same disease.

There are no special signs which justify of themselves a favourable prognosis. Increase of weight is in itself a fallacious guide. Almost any consumptive can be fattened for a time, while the physical and general signs of disease progress are unaffected.

The physical signs in the lung are not reliable as an index of prognosis. The disease may be advanc-

ing in spite of slight catarrhal signs, and it may be practically stationary, even when adventitious signs are abundant. As a general statement it is true that, where the extent of lung involved can be recognized as increasing from physical examination, the prognosis is bad. Slight continued fever and continued *malaise* have already been noted as gloomy signs. Anorexia is an anxious outlook. "If a tuberculous patient cannot eat he will die" is an axiom.

Very little assistance in the prognosis of consumption can be gathered from sanatorium statistics. Not only is there tremendous variation in the extent of mischief in a number of sufferers, but there is always the margin of personal bias in the observer. Accept no statistics that do not cover a period of at least five years in all cases of declared pulmonary tubercle. Similarly, make no conclusion as to the benefit of any special treatment until a sufficient number of trials have been made to permit of a study of cases of five years' duration.

Broadly speaking, an efficient sanatorium environment justifies the best prognosis, but not unto all is it best. It is impossible at present to persuade patients or their friends that a cure is not always most likely in such a surrounding. The value of sanatoria is directly in proportion to the character of their internal control.

Climate of itself is not of very material importance in the prognosis of consumption, but obviously a dust-free atmosphere will offer less chance of pulmonary irritation than the reverse condition.

The modern laboratory methods and screen examination have not so far been of material help in prognosis, except where repeated examination of sputum shows the absence of bacilli, which had before been easily demonstrable. Even here it is probably wise not to rely exclusively upon a single observer. We still await definite experimental recognition of the virulence of the strain in the individual patient.

To sum up, it is requisite in attempting a prognosis in consumption to take each case in its own light. The mode of onset, the individuality and environment of the sufferer, and the behaviour of the declared disease under the direction of the observer will always afford the most reliable forecast. The most dire accompaniment is continued or remittent fever, accompanied by anorexia and *malaise*, which does not subside under appropriate measures.

A difficult problem arises frequently when the prognosis involves the question of matrimony, and here again there are no hard and fast criteria which are always applicable. First are those in whom no signs of disease can be detected, but who exhibit a bad family history. Marriage is not necessarily contra-indicated in such people; but where any family tree shows a particular age tendency to develop tubercle, it would be wiser to delay until that age period has safely passed.

The second class are those in whom there is history or evidence of healed lesions. The factors to guide one would be the personal characteristics of the individual and the probable environment of the married state. Where there is distinct evidence of a lesion of any extent, even though healed or appar-

ently long quiescent, marriage should not be sanctioned.

Where there is an active lesion, no matter what its apparent extent or duration, there must be an absolute refusal to countenance matrimony, except under some very exceptional circumstance.

In delivering a prognostic verdict, it is necessary to be cheerful before the patient. The pessimistic and hopeless pronouncement is to be reserved for the patient's friends. In early cases great encouragement may be given to a sufferer by pointing out whatever may be favourable to his chance, such as a good family history, or the possibility of a favourable environment, or any fact upon which he may build a hope, and so render possible an ungrudging attitude towards what is certain to be a long and tedious experience.

Pulmonary consumption really does not differ from acute infections with respect to prognosis based upon medical treatment. There are a number of cases which would recover without any special treatment, and a number which will not recover, no matter what special treatment is employed. Between these extremes there are a number whose fate is largely determined by the advice they follow, and it is essential that such advice should neither be carried away by undue enthusiasm nor be perfunctory by reason of needless pessimism.

Reviews.

FRENKEL'S TREATMENT OF TABETIC ATAXIA.

In 1889, Frenkel first published some favourable results obtained in the treatment of locomotor ataxia by the method now associated with his name. Other neurologists were not slow to appreciate its usefulness, and to-day it is recognized as of undoubted value. The remark is almost superfluous that the essential aim of the method is to benefit, not the tabetic process itself, but the most prominent symptom, that is, the ataxia; and that success depends, not on the strengthening of muscles but on the repetition of movements, in short, on practice.

The rationale of the treatment is founded on what an analysis of the laws governing the coördination of movement shows, namely, that the continued and uninterrupted intervention of sensory impressions received from objects around (vision) as well as from moving parts of our bodies (tactile and muscle senses) plays an indispensable part in coördination. Hence, in the tabetic, although the available quantity of sensibility may be of indeed always is reduced, the central nervous system can be re-educated or trained by means of vision, which is usually preserved, and the residual sensibility, to the performance of adequate and coördinate movement. In accordance with this law, a combination of blindness and complete anaesthesia would obviously preclude re-education. Fortunately such cases are rare.

The method is of course chiefly of value in the second or ataxic stage of the disease, but even in the third or paraplegic stage, it may be of some service. The case of a patient is quoted whose ataxia was so severe that he was unable to leave his armchair; yet such was the effect of eight months' patient and persevering treatment that he could even walk down stairs backwards and without the help of a stick. But he could not dispense with the control of his eyes, falling down as soon as they were closed.

The work under review is by Dr. Freyberger, of London, and is published as an adaptation of Dr. Frenkel's book to the requirements of the medical practitioner.¹ The first

part contains theoretical discussions on ataxia and muscular hypotonia, and describes methods of examination. In the latter we notice that the use of the observer's finger tip is advocated as superior to other means in testing cutaneous sensibility, which savours of dogma to say the least. The second part is wholly practical. Methods and apparatus are described in detail, safeguards against accident are indicated, and notes on medical treatment, while the course is proceeding, are added. The text is clear, the instructions are copiously illustrated, and the book can hardly fail to be of service to all desiring to practice this method of relieving the tabetic of a most distressing disability.

Notes on Books.

"Workmen's Compensation Act, 1916, and Regulations," together with the "Rules of Court, Forms and Fees" is a volume which every New South Wales medical practitioner should possess. The authors, Messrs. G. W. Waddell and F. L. V. Coffey, have edited the Act and Regulations with great care, and have compiled indices by means of which everyone interested in the application of the Act can find the chapter and verse for each point in question without difficulty. The regulations of the Act in the form published in the *New South Wales Government Gazette* of July 20, 1917, demand hours of study for a mastery, and without a guide are of little practical value to the busy practitioner. The indexed production before us places the subject in a useful form before the reader, and enables him to find what he is looking for at once. Money spent on it is well invested.

INFECTIVE DISEASES.

The following information concerning the distribution of infective disease in the various countries is culled from the *Bulletins* Nos. 13, 14 and 15 of the Quarantine Service, under dates June 22, July 6 and July 20, 1917:—

Variola.

Reference is made to 50 cases of small-pox which occurred in New South Wales between June 8 and July 5, 1917.

In the Dutch East Indies 94 cases of variola and 32 deaths have been reported since the last publication. This disease is said to be prevalent at Osaka and Nagasaki, in Japan, but no figures are given. There have been 12 cases without a death at New Orleans during the fortnight ending May 5, 1917. One case and one death were recorded in the Bill of Health issued at Hong Kong for the week ending June 19, 1917. A case occurred at Singapore in the week ending June 23, 1917. In the Philippine Islands a fatal case was reported on May 26, while information concerning 24 cases at Zamboanga, with three deaths, was included in a Bill of Health for the fortnight ending June 25. There were seven cases of varioloid between May 13 and June 23, 1917.

Plague.

The number of cases of plague reported in India between April 22, 1917, and May 19, 1917, is 25,220, while there were 20,905 deaths from this cause during the same period. Between April 13 and May 10, 1917, there were 93 cases and 37 deaths in Egypt. In Ceylon 19 cases were reported between April 22 and May 26, 1917. There were 13 cases and 8 deaths from plague in Hong Kong from May 13 to June 9, 1917. Records of nine cases with nine deaths have been received from Java since the issue of the last Bulletin. Between June 5 and July 2 there were four cases and one death in the Straits Settlements. It is stated that the recent epidemic in South Africa consisted of 26 cases. There were 17 deaths. One fatal case occurred in the Orange Free State on May 28. The last case of rat plague at Paauhau, Hawaii, was on June 13, 1917, while the last human case was on June 23, 1917.

Cholera.

There was a case of cholera in the Philippine Islands during the fortnight ending June 23, 1917.

¹ The Treatment of Tabetic Ataxia by means of Systematic Exercises, by Dr. H. S. Frenkel (Switzerland), second revised edition by L. Freyberger, M.D.; 1917. London: William Heinemann, Demy 8vo., 209 pp., 129 illustrations. Price, 12s. 6d.

² Workmen's Compensation Act, 1916, No. 71, and Regulations (with Index), Rules of Court, Forms and Fees (with Index). Issued under the Editorship of G. W. Waddell, M.A., LL.D., and F. L. V. Coffey, B.A., LL.B., Barristers-at-Law, Sydney; 1917. Sydney: Butterworth & Co. (Australia), Ltd. Royal 8vo., pp. 120. Price, 10s. 6d.

Typhus Fever.

The distribution of typhus fever during the period from May 5 and June 15, 1917, has been given by the United States Public Health Service as follows:—

Place.	Cases.	Deaths.
Austria-Hungary	1,883	38
Egypt	1,025	271
Mexico	342	—
Java	184	14
Russia	153	16
Germany	41	—
Great Britain	17	2
Algeria	2	1
China	2	—
Greece	—	6
Turkey in Asia	—	2
Venezuela	—	1

Yellow Fever.

Some apparently isolated fatal cases of yellow fever have been reported at Pernambuco, in Brazil, on April 20, 1917.

Quarantine Arrangements, etc.

A Quarantine Station was established on July 19, 1917, at Camel Island, Northern Territory.

Information is given in regard to the prosecution of 145 persons for various offences under the Quarantine Act from July 1, 1909, to June 30, 1917. Convictions were obtained in 143 cases.

THE EFFECT OF THE WAR ON LUNACY.

The second annual report of the Board of Control for 1915 states that on the first day of 1916 the number of insane persons under care in England and Wales was 137,188, which was fewer by 3,278 than the number at the beginning of the previous year, while the commencement of 1914 showed an increase of 2,411, and the average annual increase for the ten years ended December 31, 1914, was 2,251. The decrease now recorded is the first on the previous year since 1859, when reliable statistics became available. Except in 1885, 1886 and 1890, when such increase amounted to 452, 735 and 728 respectively, the numbers have been nearer 2,000 than 1,000, and since 1893 above the former figure in all but four years, a maximum yearly increase of 3,235 being recorded in 1904. It is, therefore, natural to infer that the diminution is only temporary, and bears some relation to the exceptional conditions—social and economic—arising from the war, with which it coincides. It is noteworthy that, although the reduction in numbers did not appreciably affect the relative percentage proportion of the two sexes, which on January 1, 1915, were males 46.2, females 53.8, and on January 1, 1916, males 46.0, females 54.0; yet, on the numbers under care on the former date, the reduction of the males amounted to 2.9%, and of females to 1.9, the total decrease of 3,278 being distributed between the sexes in the proportion of males 57.4, females 42.6.

The admissions to asylums in 1915 were 21,173, or 2,055 below the number recorded in the previous report. Coinciding with altered conditions arising from the war, an explanation might perhaps be found in an actual diminution of insanity, owing (1) to the withdrawal from civil occupations of a large proportion of the male population, (2) in the great call for employment by both sexes alike, and (3) the increase in material prosperity afforded thereby. The direct and indirect effects of war in disturbing mental balance in those actively engaged, and the stress of anxiety and sorrow experienced by those at home cannot be ignored.

1890.

At a meeting of the Melbourne University Council, held on August 6, 1917, a Committee was appointed to wait upon the State Premier for the purpose of urging him to take power of resumption over a block of land situated in the neighbourhood of the Melbourne Hospital, in connexion with the proposed removal of the Medical School to this site. The members of the Committee were Professor Sir Harry Allen, Dean of the Medical School, Sir J. Grice, Mr. G. A. Syme, F.R.C.S., Mr. Tate, Mr. J. E. Mackey, M.L.A., and Mr. Flank. We understand that Sir Alexander Peacock, informed the Committee that the proposal was out of the question at present, because no money was available for the purpose.

Public Health.**NEW SOUTH WALES.**

The following notifications have been received by the Department of Public Health, New South Wales, during the week ended August 4, 1917:—

	Metropolitan District.	Hunter River District.	Rest of State.	Total.
	Cs. Dths.	Cs. Dths.	Cs. Dths.	Cs. Dths.
Enteric Fever	8 0	1 0	2 0	11 0
Scarlatina	26 1	0 0	14 1	40 2
Diphtheria	67 3	0 0	39 1	106 4
C'bro-Sp'l Menin. .. .	2 0	0 0	1 0	3 0
*Pul. Tuberculosis .. .	30 7	3 0	0 0	33 7

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

One case of variola has been reported from Mungindi.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending August 5, 1917:—

	Metropolitan.	Rest of State.	Total.
	Cs. Dths.	Cs. Dths.	Cs. Dths.
Diphtheria	42 2	29 0	71 2
Scarlatina	22 0	12 0	34 0
Enteric Fever	3 0	4 1	7 1
Pulmonary Tuberculosis	14 8	7 7	21 15
Cerebro-spinal Meningitis	3 —	1 —	4 —

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending August 4, 1917:—

Disease.	No. of Cases.
Scarlatina	9
Diphtheria	34
Enteric Fever	3
Pulmonary Tuberculosis	7
Erysipelas	3
Ankylostomiasis	2
Malaria	1

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, for the week ending July 28, 1917:—

	Adelaide.	Rest of State.	Totals.
	Cs. Dths.	Cs. Dths.	Cs. Dths.
Pertussis	0 0	28 0	28 0
Diphtheria	1 4	17 0	18 4
Pulmonary Tuberculosis	1 3	4 3	5 6
Scarlatina	0 0	5 0	5 0
Morbili	0 0	3 0	3 0
Erysipelas	0 0	2 0	2 0
Cerebro-spinal Meningitis	0 0	1 0	1 0
Enteric Fever	0 0	1 1	1 1
Puerperal Fever	0 0	0 1	0 1

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending July 28, 1917:—

	Metropolitan.	Rest of State.	Totals.
	Cases.	Cases.	Cases.
Enteric Fever	1 ..	1 ..	2
Diphtheria	8 ..	1 ..	9
Scarlatina	6 ..	0 ..	6
Pulmonary Tuberculosis	2 ..	0 ..	2
Erysipelas	1 ..	0 ..	1

Leo Bamber, M.B., 1917, Univ. Sydney; of the Sydney Hospital, Sydney, has been nominated for election as a member of the New South Wales Branch of the British Medical Association.

The Medical Journal of Australia.

SATURDAY, AUGUST 18, 1917.

The Prognosis of Pulmonary Tuberculosis.

The records of hospitals, sanatoria and other establishments at which persons suffering from pulmonary tuberculosis receive medical treatment usually contain statistics of the percentage of symptomatic cures. We have called attention from time to time to the fallacy of these records in estimating the value of treatment, and have pleaded for information concerning the condition of the patients five years after their discharge. Statistics frequently show that 60% or more of the patients admitted to sanatoria when discharged after a variable period of time are capable of resuming work. In his classical report to the Local Government Board (1906) Dr. Bulstrode was able to expose the unwisdom of exaggerating the benefit derived from sanatorium treatment. For example, only 16.7% of those discharged from the Durham Sanatorium in the year 1900-1901 were at work in 1906-1907, although over half those with early infections were still at work a year after discharge. Dr. Bulstrode emphasized the value of sanatorium treatment, and wrote strongly in its favour, notwithstanding these figures.

In the present issue we publish an exceptionally clear and philosophical lecture by Dr. Alex. Lewers on the subject of the prognosis of pulmonary consumption. His experience has taught him a wise caution in anticipating the course of this chronic disease, and while he gives certain indications which may be of use in arriving at an opinion, he recurs again and again to the mistakes which characterize attempts to look into the future history of the consumptive. The literature on the modern treatment of tuberculosis is largely coloured by an admirable enthusiasm, which no doubt stimulates us to throw all our energies into the struggle against this insidious infection. To antagonize this enthusiasm would be to employ destructive criticism without offering any constructive teaching to replace it. But it would be eminently unscientific were we to accept

a favourable view of a widespread and deadly disease without undoubted justification. The death-rate from tuberculosis in Australia in the year 1914 was 73 per 100,000 persons living. During the first quarter of the present year the health authorities in the various States, excepting New South Wales, where pulmonary tuberculosis is notifiable only in limited districts, received information concerning 869 cases, and during the same period there were 450 deaths from this condition. These figures should suffice to show that pulmonary tuberculosis is still a deadly disease. The favourable experience at sanatoria is often marred by the admission of cases in an advanced stage. Quite recently Dr. Jamieson, of Sydney, has protested against the action of those in charge of the Anti-tuberculosis Dispensaries and the Tuberculosis Department of the metropolitan hospitals in not sending so-called suitable cases to the sanatoria. The sanatorium provides the best means for supplementing nature's efforts to overcome a tubercular infection before it has gained a complete mastery over the organism. While it has not yet been shown that the sanatorium treatment is capable of effecting an arrest of the process, it is certain that the body is placed under a more favourable condition for combating the invasion in a sanatorium than elsewhere. Furthermore, it must be accepted that the future of the patient is greatly influenced by the training he receives during a course of treatment at a sanatorium. In order that the maximum benefit may be secured for the patients, it is essential that only those with a favourable prognosis should be recommended to sanatoria. Dr. Lewers, out of the wealth of his experience, warns us that it may be impossible to prognosticate with anything approaching accuracy in the case of pulmonary tuberculosis. We are therefore driven to rely on the distinction between early lesions and advanced disease, and to exclude the latter cases from the sanatorium. It is true that among the patients in whom early consumption is diagnosed, there may be many whose lesions will not progress sufficiently to cause real physical disability. Spontaneous cure or arrest will occur in these patients. It is well to remember that there is an old French saying that consumption is a disease from which the rich sometimes but the poor never recover. This applies to manifest dis-

ease. If those responsible for the annual reports of the various institutions at which tuberculosis of the lung is treated would but inform us of the fate of the patients discharged five or more years before, we may be able to learn how often the rich recover from this dire disease. The moral of the story, as told in the records available at present, is that too much reliance should not be placed on the curative effect of treatment, and that all the more energy should be expended in the attempt to prevent the disease. Alcoholism, poverty, insanitary housing conditions, and the dissemination of bacilli are the dangers. If these could be banished, tuberculosis would cease to exist.

THE ERADICATION OF A PEST.

The history of medicine is as absorbing and as romantic as any story in fiction. The interest lies, however, in the retrospect of passed achievements rather than in the recognition of current events. Students of science are apt to survey but a small vista and to introduce confusion into their orientations by admitting speculation side by side with narrative. For years a large army of workers has been engaged in battling with the causes of disease and death, and several important victories have been attained. There have been failures and reverses; the enemy has often enough ensnared the workers along false paths into traps, and the battler has at times been cut off and has fallen a prey to the disease he has endeavoured to overcome. While the story, often told, of the eradication of yellow fever from the Isthmian Canal Zone is as fascinating as any in the book of medicine, the story of the protection against renewed invasion by the same plague should claim the attention of students of preventive medicine. This story has recently been told by Drs. Guthrie, Hoey, Connor and Herbert C. Clark in a series of communications made to the Medical Association of the Isthmian Canal Zone. From the accounts of these custodians of the public health we can construct a complete history of the events since yellow fever was banished from the Zone and the inhabitants granted a security which had been wanting for over four centuries. That the Canal Zone was a blot on civilization is shown by General

Gorgas' estimate of the mortality during the period 1881-1889. The average maximum number of employees of the French Canal Company was 13,055. During the eight years no less than 22,000 employees died of yellow fever and other endemic and epidemic diseases. Serious epidemics occurred in 1900 and 1902, and in 1905 "Yellow Jack" had its last fling. Since that year no case has occurred within the Zone. The danger of a recurrence has been realized throughout the years since 1905, and this knowledge has been kept fresh in the minds of the health authorities by the occasional introduction of a person suffering from the disease. Between 1908 and 1916 eleven cases were imported. Ten of these were detected and stopped at quarantine, while the eleventh patient, who armed himself with false affidavits, got through, but was stopped at Colon and was promptly isolated. In no instance did the patients give rise to further cases. The change which has been effected was in part due to a strict supervision at quarantine, but, as Dr. M. J. Hoey states, absolute quarantine is an impossibility, and the attempt to secure it a relic of barbarism. The clearing-up of the mosquito breeding-places, the wholesale destruction of *stegomyia* larvæ, the proper sanitation of dwellings and the safe disposal of excrement and refuse have succeeded in cutting off the intermediate host between patient and patient of the virus of yellow fever. The sanitarians have reduced the number of *stegomyia* mosquitoes to a very small number, and, as has been demonstrated in the case of malaria, it is quite reasonable to accept the chance of a spread of disease by a few mosquitoes, in view of the fact that no epidemic can be supported by a few insects. In the task which the health authorities have now in hand, every individual who comes from a district known to harbour cases of yellow fever, is examined, and isolation is enforced in every case in which the temperature is raised. The observation is continued until six days after the possible exposure to infection have elapsed. The medical officer recognizes that the mildest cases are capable of constituting a focus of infection, and consequently no instance of the slightest fever is passed by unnoticed. That the measures adopted have sufficed to guard the community in the Isthmus from yellow fever for over ten years, in spite of the fact that hot-

beds of this disease exist within a relatively short distance, is ample evidence of the efficacy of these protective measures. Translating the problem to Australian conditions, the health authorities should recognize that while *Stegomyia* are permitted to breed at will in Queensland and other parts of the Commonwealth, stringent quarantine control may be incapable of barring the introduction of the infection. The danger may be remote, but it is a chance that need not be accepted, and should be avoided.

EPIDEMIC ANTERIOR POLIOMYELITIS.

When epidemics traverse a community they produce illness in a proportion of the people. If a considerable fraction of the population suffer from the epidemic disease, those individuals who escape the ailment, are customarily regarded as more resistant to the contagion, but, when the incidence among the people is low, the sick are held to be more susceptible to the infection. The nature of this resistance or susceptibility requires more precise description. We may therefore welcome the account¹ given by Simon Flexner of the mechanisms defending the human body from epidemic poliomyelitis, often known as infantile paralysis. Even when anterior poliomyelitis is present in a severely epidemic form, only a small number of the members of the community contract the malady. During the summer and autumn of 1916, 9,000 cases of the disease were recognized in Greater New York City. The incidence of the disease was, however, only 1.59 per 1,000 of the population.

The virus of this malady leaves and enters the human body through the mucous membranes of the nose and mouth. It is found in persons exhibiting some degree of paralysis, in some who become slightly ill though no muscular palsy follows the ailment, and in healthy persons. The proportion of healthy people harbouring the virus has not yet been ascertained. As the virus is distributed widely among the members of a community and as relatively few persons take the disease, it is probable that many persons who do not acquire the malady are inoculated with the virus. These individuals are able to destroy the virus or prevent its passage to the central nervous system. Two means of defence have been discovered, one external and extra-nervous, and the other internal and nervous. The external mechanism consists of the secretions of the nasal mucous membrane. The nasal secretions from many, if not most, persons inactivate the virus of poliomyelitis after a brief contact. If an active virus is mixed with the nasal secretion, freed from bacteria by filtration through porcelain, it no longer gives rise to the disease upon inoculation into monkeys. This neutralizing power is not present in the nasal secretion of some persons, while it is temporarily absent from the secretions of others during some transient pathological state of the mucosa. Up

to the present it has not been possible to determine whether the nasal secretions of young persons are less potent in this respect than the similar secretions of adults. The internal mechanism consists of the membranes of the brain and of the spinal cord and the attached secreting organ of the choroid plexus. This complex has the power of excluding from the cerebro-spinal fluid, and hence from the substance of the nervous tissues, materials present in the circulating blood. When this complex has been injured, proteins, cells and bacteria can pass from the blood into the cerebro-spinal fluid. Unless the choroid plexus and meninges are injured, the virus of poliomyelitis does not pass from the blood into the nervous organs. The injury may vary in severity from the aseptic inflammation, produced by injecting sterile horse serum by lumbar puncture, to the evanescent changes caused by the introduction of physiological saline, Locke's or Ringer's solutions. Even the injection of cerebro-spinal fluid of other monkeys, which leads to no recognizable alteration, increases the susceptibility of monkeys inoculated with the virus through the blood.

Flexner suggests that poliomyelitis arises when both these means of defence fail during the prevalence of the malady. The absence of both sets of defensive measures would only occur in exceptional instances in a population of any size. While it is not difficult to conceive of ways in which the external mechanism is rendered inoperative, it is, at present, more difficult to account for the failure of the internal mechanism. The nasal secretions no doubt neutralize the virus in the nasal passages of persons who have been exposed to the virus of the disease. The carriage of the infection will thus be diminished and the nasal secretions will form an essential agency in diminishing public danger by reducing the number of the potential carriers of the virus.

CHLORAMINE-T.

The continued search for an ideal antiseptic is the best proof that those which have been in use in the past, fall short in some respect. The enthusiastic supporters of sodium hypochlorite have based their high opinion of this germicide on practical impressions gained during the time that this substance was, so to say, a new toy. Surgeons demand an antiseptic which acts rapidly on all forms of bacteria and low forms of life without impairing the vitality of the cells of the human body. It is unlikely that a substance possessed of this quality can exist. A material gain is effected when the antiseptic can perform its functions efficiently during the course of a few hours without inflicting serious damage to the tissues. In other words, the bacteriologist must ascertain for the surgeon the weakest solution of a given antiseptic that suffices to kill bacteria in a wound within a measured time and the weakest solution which will suffice to keep a sterile wound sterile. The workers at the Rockefeller Institute for Medical Research have been engaged in the study of this problem for some considerable time. A. Vincent¹

¹ *Proc. National Acad. Sciences, U.S.A.*, Vol. 3, p. 416, June, 1917.

² *The Journal of Experimental Medicine*, July 1, 1917.

has shown that at least 0.4 c.cm. of Dakin's hypochlorite solution is required to act for 12 hours to retard the growth of a single drop of a 24-hour broth culture of staphylococcus in 5 c.cm. of broth. Similarly, he found that 0.3 c.cm. of a 1% solution of chloramine-T is required to effect the same action. He also found that 2 c.cm. of Dakin's solution or 1 c.cm. of 1% solution of chloramine-T is required to sterilize the broth. Further investigation demonstrated that in seven out of 20 cases of infected wounds, complete sterility was obtained by means of Dakin's solution or a paste of chloramine-T. He states that this degree of asepsis is not necessary in order to suture the wound. For this purpose, the absence of bacteria in films is sufficient. Maurice Daufresne² has attempted to determine the most suitable concentration of chloramine-T (this term is employed for the sodium salt of toluene sodium *p*-sulphochloramide) for surgical purposes. A paste with neutral sodium stearate and distilled water, containing 20 grammes per kilogram, proved irritating, and one containing 15 grammes per kilogram produced congestion of granulations. When the paste contained 10 grammes per kilogram neither pain nor irritation was induced, even when the application was continued for weeks. This concentration was said to effect a bactericidal action strong enough to disinfect surface wounds completely. Alexis Carrel and Alice Hartmann³ experimented with a paste of chloramine-T containing from 4 to 10 parts per 1,000. With the weaker concentration re-infection occurred three times out of six observations. They found that 10 parts of chloramine-T per 1,000 sufficed to sterilize slightly infected wounds, and that surface wounds, deep-seated wounds and osseous cavities which had previously been either completely or almost completely sterilized, could be kept in a condition of surgical asepsis for days and even weeks by the same means. Pastes are useless for severely infected wounds on account of the fact that the copious discharges dilute the antiseptic beyond the point of efficient action, and because the proteins of the pus combine with the antiseptic and render it inert. The authors maintain that a paste of this concentration is quite uninjurious to the tissues. They have been able to determine that this paste causes no apparent modification of the cicatrization curve of an aseptic wound. These experiments show that Dakin's chloramine, which is twice as active in a concentration of one part in 1,000 as Dakin's hypochlorite solution, must be applied for many hours in a concentration of about 1% to sterilize a slightly infected wound. Moreover, this antiseptic in a concentration of 1.5% produces a visible injury to granulation tissue. It cannot justly be regarded as an ideal antiseptic.

TIN IN FOOD.

Foods are often placed in cans made of tin. The liquid portion of the food, sometimes containing acids, dissolves a quantity of tin, which becomes diffused through the material in the can. Although

most canned foods contain more or less tin, chronic poisoning by tin is extremely rare, yet the repeated administration of soluble salts of tin to animals readily leads to symptoms of poisoning. It has been noted that the tin found in preserved meats and fruits and in jams, does not pass through a filter, and does not dialyse. In the more acid foods a trace of tin is present in a dialyzable and filtrable state. The tin in canned foods is mostly combined as a salt of a compound of tin and protein. These salts are stable and insoluble. Recently B. C. Goss¹ has studied the artificial digestion of the tin-protein compounds by pepsin and trypsin. He has observed that tin is absorbed by proteins, such as egg-albumin, caseinogen, edestin and legumin, according to the law of Freundlich. The amount of tin taken up by the proteins depends on the concentration of the solution of tin at the end of the period of exposure. The proteins examined have absorbed from 2% to 32% tin dependent on the time that they have been suspended in the solution of the salt of tin. These proteins have been used in the experiments upon digestion. The progress of digestion has been measured by the colour of the biuret reaction. Tin has been sought in the filtrates of the digested proteins, and the percentage of tin has been estimated in the undissolved protein.

It has been noted that the presence of tin in the proteins inhibits the digestive action of pepsin and trypsin. Proteins which are completely dissolved in four hours, have been still insoluble after 48 hours' digestion, when they have previously absorbed tin. Tin cannot be identified in the soluble products of their digestion. On the other hand, the percentage of tin in the undissolved protein has increased. A part of the protein moiety of the complex therefore undergoes hydrolysis, while the tin remains in the undissolved fraction. When the protein has absorbed 32% tin, it contains 62% tin after 48 hours' digestion in an acid medium with pepsin. These results suggest that the tin combined with proteins in canned foods does not undergo solution in the alimentary tract and, on that account, does not pass through the intestinal wall.

Grave anxiety is felt regarding the safety of Colonel C. L. Strangman, P.M.O. of New Guinea, and Major J. W. Flood, both of whom left as passengers on board the *Matunga*. The vessel was last spoken on August 5, 1917, and in spite of an elaborate search, no news of her has been received up to the time of going to press.

OLD GOLD AND SILVER WAR FUND.

In view of the special appeal to be made by the "War Chest" next month, the Committee of the "Old Gold and Silver War Fund" (Sydney) are desirous of bringing their fund, its objects and needs, under the notice of the members of the medical profession. The "Old Gold and Silver War Fund" receives donations of old gold and silver articles, such as out-of-date brooches, lockets and other jewellery, old watches and chains, spoons, coins, in fact anything made of gold or silver, and no matter how old, battered or broken, the saleable articles being sold at the Head Dépôt,

² *Ibid.*
³ *Ibid.*

¹ *Journ. Biol. Chemistry*, Vol. 30, p. 53, May, 1917.

City Mutual Chambers, 62 Hunter Street, Sydney, the unsaleable ones melted down. All proceeds are distributed amongst the "War Chest" and other funds that help Australian soldiers. The Committee of the Old Gold and Silver Fund are anxious that their street-stall in aid of "War Chest Day" next month, should be as successful as those organized in the past, and they therefore appeal for help. It is suggested that those who cannot send gifts suitable for sale at the stall, might send the few fragments that they can spare for melting down; a piece of old watch-chain, a broken sleeve link, a couple of worn-out thimbles, an old silver cup or medal—even a set of artificial teeth—will help to buy comforts for our gallant fighting-men. Donations should be sent to the Head Depôt, City Mutual Chambers, 62 Hunter Street, Sydney, or to any country or suburban branch of the Bank of New South Wales, or Commercial Banking Co. of Sydney.

AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

We have to acknowledge the receipt of four contributions to the fund for providing Christmas cheer for the members of the Australian Army Medical Corps abroad. In thanking those who have supported our appeal, we venture to urge others to assist in augmenting the fund.

	£	s.	d.
Amount previously acknowledged . . .	28	2	0
Dr. S. Docker Read (Horsham, Vic.) . .	1	1	0
Dr. J. MacBain Ross (Mount Morgan, Q.)	2	2	0
Dr. P. E. Walton Smith (Sydney) . . .	1	1	0
Dr. C. H. E. Lawes (Petersham, N.S.W.)	1	1	0

Naval and Military.

The 329th and the 330th lists of casualties, which were issued on August 9 and August 13, 1917, respectively, contain the following information concerning medical officers of the Australian Imperial Force: Captain William Robert Aspinall was killed in action on July 20, 1917 (see *The Medical Journal of Australia*, August 4, 1917, page 104). Major William Duncan Kirkland was killed in action on July 22, 1917 (see *The Medical Journal of Australia*, August 11, 1917, page 129). Captain Eric Ivo Lowther Graves has been wounded, but is remaining on duty. The following officers are reported to be ill in hospital: Captain William Maclean Amphlett, Captain Robert Trevor Fetherstonhaugh and Captain Cecil Roy Quinn.

We learn that Major George Edwards Cole was among the recipients of the Distinguished Service Order who were decorated on the occasion of His Majesty's birthday.

The Military Cross has been awarded to Captain H. W. F. Mitchell, Captain G. S. Robinson, Captain C. T. Turner and Captain F. L. Wall.

The *London Gazette* of June 18, 1917, contains the following information concerning medical officers of the Australian Imperial Force who were awarded the Military Cross (see *The Medical Journal of Australia*, July 27, 1917, page 544). The reference to the late Captain William Robert Aspinall will be found in another page of this issue.

Captain William Duncan Kirkland, Australian Army Medical Corps, attached Field Artillery.

For conspicuous gallantry and devotion to duty. During hostile shelling two ammunition dumps were set on fire, also causing several casualties. He immediately went to the assistance of the wounded, and, regardless of heavy shell fire and numerous explosions, dressed their wounds. He has at all times set a fine example.

Captain Ronald Lennox Henderson, Australian Army Medical Corps, attached Infantry.

For conspicuous gallantry and devotion to duty. He displayed great courage and determination in tending the wounded under very heavy fire. His devotion to duty saved many lives.

Captain Stanley Vincent O'Regan, Australian Army Medical Corps, attached Infantry.

For conspicuous gallantry and devotion to duty. He worked continuously throughout the day, tending to the

wounded under very heavy fire. He set a fine example to all ranks.

Captain Hugh Alexander Wyllie, Australian Army Medical Corps, attached Infantry.

For conspicuous gallantry and devotion to duty. He tended the wounded continuously for two days under heavy fire. He set a splendid example of courage and determination.

Lieutenant-Colonel Andrew Honman, of Melbourne, in the State of Victoria, Officer Commanding No. 5 Australian General Hospital, has been appointed a Commissioner for declarations under the *Statutory Declarations Act*, 1911.

The following appointments, etc., are announced in *The Commonwealth of Australia Gazette*, No. 123, of August 9, 1917:

Army Medical Corps.

To be Colonels—

Lieutenant-Colonel (temporary Colonel) B. J. Newmarch, C.M.G., V.D.

Lieutenant-Colonel (temporary Colonel) R. J. Millard, and to be Deputy Director Medical Services, Australian Imperial Force in England.

Lieutenant-Colonel (temporary Colonel) G. W. Barber, D.S.O.

Dated 20th February, 1917.

To be Temporary Colonel—

Lieutenant-Colonel K. Smith. Dated 22nd February, 1917.

Lieutenant-Colonel C. T. C. de Crespigny is granted the temporary rank of Colonel whilst commanding No. 1 Australian General Hospital. Dated 5th March, 1917.

Lieutenant-Colonel A. G. Butler, D.S.O., relinquished appointment of Deputy Assistant Director Medical Services, 1st Anzac, and is transferred to command 3rd Field Ambulance. Dated 20th February, 1917.

Major W. H. Donald, from 7th Field Ambulance, to be Deputy Assistant Director Medical Services, 1st Anzac. Dated 20th February, 1917.

To be Temporary Lieutenant-Colonels—

Major D. A. Cameron.

Major H. C. Taylor-Young.

Major C. E. Wassell.

Major C. Yeatman.

Major R. D. Campbell, D.S.O.

Dated 20th February, 1917.

Major Sir John McCall to be Honorary Lieutenant-Colonel (without pay or allowances). Dated 20th February, 1917.

To be Major—

Captain (temporary Major) R. S. Whitford. Dated 14th November, 1916.

To be Temporary Major—

Captain E. H. Burkitt. Dated 20th February, 1917.

1st Military District.

Captain (Honorary Lieutenant-Colonel) J. E. Dods, D.S.O., M.C., from the Unattached List, to be Lieutenant-Colonel (temporary) whilst employed as President of Permanent Medical Referee Board (Part-time). Dated 11th June, 1917.

3rd Military District.

Major C. A. Courtney is seconded from the 19th (Yarrowee) Light Horse whilst temporarily employed with the Australian Army Medical Corps. Dated 1st February, 1917.

6th Military District.

Captain and Honorary Major D. H. E. Lines to be Major (temporarily) whilst employed as President of Permanent Medical Referee Board (Part-time). Dated 8th May, 1917.

Captain and Honorary Major G. Sprott to be Major (temporarily) whilst employed as member of Permanent Medical Referee Board (Part-time). Dated 8th May, 1917.

We regret to announce the death of Dr. John Thomson, of Williamstown, Victoria, which took place on August 10, 1917.

Abstracts from Current Medical Literature.

PATHOLOGY.

(49) Parasitology of Pyorrhoea Alveolaris.

A. H. Drew and U. D. Griffin (*Journ. Roy. Microscopical Soc.*, April, 1917) have examined the parasites present in 300 patients suffering from pyorrhoea alveolaris. They have endeavoured to decide whether amœbæ are invariably associated with pyorrhoea, whether more than one species of amœbæ exists under such conditions, whether these amœbæ are pathogenic and whether any other organisms are related to the condition. Material was collected in a special pipette from pockets under the gums and mixed with saline solution. The material was examined in a sealed cell with dark ground and ordinary illumination. Another portion was fixed in Schaudinn's fluid and stained with iron hæmatoxylin. Amœbæ have been found in every sample from the affected patients. They have been present in small or large numbers, and the number of amœbæ has had no relation to the severity of the affection. The presence or absence of tartar has not influenced the number of amœbæ. In specimens from 20 normal mouths no amœbæ have been observed. In 10% of the samples from diseased mouths *Trichomonas* have been discovered. Leptothrix is invariably present. Immense numbers of spirochaetes and *Treponemata* are found in these patients. They belong to at least six species, *Spirochaeta buccalis*, *S. vincenti*, *S. refringens*, *Treponema macrodentium*, *T. microdentium* and *T. mucosum*. The authors define a spirochaete as an elongated sinuous organism with no flagella but with an undulating membrane which may be quite rudimentary. A treponema is a similar form, not provided with an undulating membrane, but possessed of a terminal flagellum. They have observed transverse and longitudinal fission in both *T. macrodentium* and *T. microdentium*. They describe two flagellate organisms which they believe to be new. Bacteria are present in pyorrhoea usually in great abundance. Streptococci are found in every patient. Many cocci have been found, including *Micrococcus catarrhalis*, *M. tetragenus*, *Staphylococcus albus* and *S. aureus*. The amœbæ appear to belong to two species. The larger form measures from 10 μ to 30 μ in diameter. It varies much in motility. It possesses a distinct ectoplasm, the endoplasm being granular and containing food vacuoles, bacteria, erythrocytes and nuclei. The nucleus is not visible in the living organism, but is well defined and ring-shaped, with the chromatin at the periphery and with a small central karyosome. This organism is undoubtedly

edly *Entamoeba gingivalis* (Gros). The other amœba varies from 15 μ to 20 μ in diameter, and is remarkably uniform in size. It is actively motile. The nucleus is invisible in the living specimens. The nucleus is of the *Vahlkampffia* type, with a central karyosome containing all the chromatin. The cytoplasm shows food granules, bacteria and erythrocytes. This amœba is named by the authors *Amoeba buccalis*. It occurs in about 65% of the patients, along with *Entamoeba gingivalis*. *Amoeba buccalis* has been cultivated on three media. Some success has been obtained with an agar jelly containing tyrosin, but better results have been gained with a medium containing 0.1% creatine, on which the amœbæ grow anaerobically. The amœbæ were cultivated in this way from 65% of the patients. On this medium no encystment of the amœbæ has taken place, even after weeks. Pure cultures of the amœbæ were prepared by the method of Cropper and Drew in the presence of *Bacillus fluorescens nonliquefaciens*. The amœbæ have also been grown from single cysts. With pure mixed cultures the life history of the amœbæ has been watched. Attempts to study the production of encystment have not been very successful. The amœba is regarded as a semi-parasite. An endeavour has been made to prepare a lysin by injecting the amœbæ into rabbits, but no lysis could be obtained with the antiserum. Attempts to obtain complement fixation with the serum of patients and with alcoholic extracts of the cysts have given positive results in one out of twelve samples of blood. While it has been possible to cultivate *Amoeba buccalis*, no success has been attained in growing *Entamoeba gingivalis*.

(50) Formation of Euglobulin.

W. M. Berg (*Proc. Nat. Acad. Sciences, U.S.A.*, April, 1917) has examined the conversion of pseudoglobulin into euglobulin by heat. This conversion takes place during the concentration of antitoxin in the methods used by Banzhaf for this purpose. The transformation is stated to facilitate the concentration of the antitoxin present in the serum, by removing protein without removing antitoxin, so that the final product contains all the antitoxin associated with much less protein. Further, if this transformation takes place without loss of potency, it constitutes conclusive proof that the antitoxin is a substance separate from pseudoglobulin. The author has observed the change from pseudoglobulin into euglobulin in four antisera, two against anthrax, two against diphtheria and one against tetanus. The sera have been heated to 60° C. for thirty minutes. Estimations of the amounts of total coagulable protein, euglobulin, pseudoglobulin and albumin have been made on the unheated and heated sera. These results show that the loss of pseudoglobulin in the heated sera corresponds almost exactly with the gain in euglobulin in the same sera. The actual increases in quanti-

ties have been sufficiently large to preclude any possibility of error in the estimations.

(51) Intestinal Protozoa in Non-dysenteric Patients.

A. M. Smith and J. R. Matthews (*Annals of Trop. Med. and Parasitology*, February, 1917) have examined microscopically the stools from 250 soldiers admitted to military hospitals in the neighbourhood of Liverpool for diseases other than dysentery. The illnesses of the patients were occasioned by wounds, malaria, throat and ear complaints, hernia, appendicitis, hæmorrhoids and many other conditions. Of these patients 75 harboured parasites. *Entamoeba coli* was found in 48 patients, *Giardia intestinalis* in 20, *Entamoeba histolytica* in 20, *Chilomastix mesnili* in 5, and *Trichomonas hominis* in 4 patients. As the faeces from only 77 patients were examined at least three times, the authors consider that their figures show too low a proportion of infections. The discovery of 8% of carriers of *Entamoeba histolytica* in a non-dysenteric population is regarded by the authors as of much significance. Of the twenty patients with *E. histolytica* infected only three gave any history of a previous attack of dysentery. Of the total number of patients 30 gave histories of previous attacks of dysentery or diarrhoea. Among these patients protozoa were found in 12 persons. Two hundred and twenty patients gave no histories of previous intestinal disturbances, and 63 were found harbouring parasitic protozoa. Twenty-four patients had never left England, and five were found infected. None of these harboured *E. histolytica*. Twelve had lived in Canada and England. Two were infected with *E. coli*. Ninety-one had been in England and France only. Twenty-eight were infected, and one yielded *E. histolytica*. One hundred and twenty-three had been in a tropical or sub-tropical region. Forty were infected and nineteen harboured *E. histolytica*. Detailed accounts are given of the histories of each patient infected with *E. histolytica*, of each patient having an infection of *E. coli*, apparently contracted in England or Canada, and of the patients who have never been out of England, but who have infections with *Giardia intestinalis*.

(52) Action of Cold on Malarial Parasites.

W. V. King has studied the effect of cold on the development of *Plasmodium vivax* and *P. falciparum* in *Anopheles quadrimaculatus* (*Journ. Exper. Med.*, March, 1917). These experiments have shown that the parasites can survive freezing temperatures of several days' duration in the body of the mosquito. The mosquitos were reared artificially and infected by a single meal of blood from a suitable carrier of gametes. The mosquitos were kept at room temperature except during the period of exposure to cold. They were

exposed to a temperature of -1.0° C. (30° F.) for two days and to a temperature of 7.8° C. (46° F.) for 17 days in the case of those infected with the parasites of tertian ague. The sporonts of ætivo-autumnal fever were exposed to 2.0° C. (35° F.) for 24 hours. After a varying number of days the mosquitoes were dissected. The parasites showed varying degrees of development, so that it was certain that the parasites had not been killed by the exposure to cold.

PÆDIATRICS.

(53) The Infective Theory of Acute Leukæmia.

In his inquiry into the infective nature of acute leukæmia, Gordon Ward (*British Journ. of Children's Diseases*, January-March, 1917) makes use of facts derived from an analysis of 1,457 cases of leukæmia of all varieties. He finds that the congenital variety (six cases) is not clinically different from the ordinary acute type, but there is no evidence of any source of infection in the mother or elsewhere. Again, there is no evidence that leukæmic mothers tend to have leukæmic children, nor that leukæmic children have leukæmic mothers. These facts do not prove that leukæmia is never an infective disease, but merely that there are cases of leukæmia in which the infective agent, if there be one, very patently refuses to conform to the practices of other infective agents. On the other hand, there is some evidence in favour of very occasional infection of one person by another in the case of the disease, as seen in older children and adults, and in the case of both acute and chronic forms of leukæmia. Acute and chronic infections, as well as protozoal infections, have never been noted to have an evident bias towards one sex, nor is there a very marked difference in their clinical manifestations, tallying with the age at which they occur. On the other hand, certain metabolic diseases, e.g., diabetes and generally the diseases which are classed as neoplasms, seem invariably to manifest themselves with unusual virulence in the young and in adults, are often particularly partial to one sex. A study of the cases shows very well that leukæmia has a very marked preference for the male sex, and has also a well-marked "age of election." So leukæmia resembles in type the metabolic, and not the infective, diseases. In conclusion, the author sums up against the infective nature of leukæmia, the established facts being: (1) That there is a congenital form of leukæmia which occurs in children whose parents are not leukæmic; (2) That leukæmic parents have never been known to transmit the disease to the new-born child; (3) That instances in which actual infection of one person by another might seem to

have occurred are very few, although not necessarily devoid of significance; (4) That in having a marked preference for a particular sex and age, leukæmia differs from the infective class of diseases, and resembles the metabolic diseases and cancers.

(54) The Urine in Vulvo-Vaginitis.

The conception of an ascending route of infection in cystitis of infancy has largely rested on the unproved assumption of a constantly contaminated urethral tract. This served to explain the predominance of cystitis in female infants. In a recent study of the bacteriology of the urine in normal children, and of the urine from children with extra urinary infections, it was established conclusively that organisms of the colon group are not normal inhabitants of the female urethra. If the incidence of cystitis were subject to local factors, then any condition which increased such local factors would militate against a sterile urinary tract. With the object of settling this point, Schwartz (*Amer. Journ. of Dis. of Children*, May, 1917) studied the bacteriology of the urine from eighteen unselected patients with chronic gonococcal vulvo-vaginitis. All the patients were over two years of age, and at the time of catheterization leucocytes were found in the vaginal smears. The urine in these cases showed a comparative absence of bacteria, the majority of the organisms encountered being either Gram-positive cocci or diphtheroid bacilli. In most instances the organisms were present in such small numbers that they could easily be accidental contaminations from the urethra. The second portion of the urine, representing the bladder flora, was shown to be as free from infecting organisms as was demonstrated in a previous series of urine from normal individuals. The occurrence of vulvo-vaginitis did not increase the tendency to contamination of the bladder. It was found, too, that the two patients in whom gonococcal cystitis was present, had had a previous infection of the urinary tract, one a colon cystitis, the other a mild nephritis, associated with colon bacilluria.

(55) Books in the Dissemination of Contagious Diseases.

As the result of numerous experiments and investigations, Taubach (*Bull. Johns Hopkins Hospital*, 1916) came to the following conclusions: (1) Pathogenic bacteria can rarely be isolated from books used by patients ill with the contagious diseases, and there is therefore no empirical reason for maintaining that books serve as vehicles of infection. (2) Direct sunlight and diffuse daylight are the most efficient germicide for organisms found on books, as they are for the same organisms under other conditions. (3) The fact that pathogenic bacteria, like the typhoid bacillus and diphtheria bacillus, can be recovered from arti-

ficially infected books under various circumstances after long periods of time, and the fact that the diphtheria bacillus does not lose in virulence during this period, are a sufficient reason for insisting on the thorough disinfection of books handled by patients.

(56) The Fatality of Chicken-pox, Mumps and German Measles.

Williams (*New York State Journ. Med.*, 1916) reaches the following conclusions after a careful study into the causes of death in cases of varicella, parotitis and roetheln. Both the death certificates and medical reports of the cases were thoroughly investigated. (1) Chicken-pox is rarely in itself a cause of death, though where the patient is weakened by constitutional disease, death may result. Pyogenic infection may occur from infected vesicles. In a number of the reported cases, chicken-pox was only a complicating ailment, and was not the primary cause of death. (2) Mumps, though a serious disease, is rarely, of itself, fatal. In many cases, especially in old people, where death was reported as due to mumps, the infection of the gland was probably pyogenic, and was secondary to oral infection. (3) Only a few cases of German measles were met with. From these it would appear that pulmonary complications are fairly frequent. Broncho-pneumonia contributed to a fatal issue in several of the cases.

(57) Isolated Nasal Diphtheria.

Rolleston (*British Journ. of Children's Diseases*, January-March, 1917) first refers to various reports of cases of diphtheria confined to the nostrils from the year 1857 up to the present day, and then goes on to discuss the disease as met with in 3000 hospital cases of diphtheria. He gives the following summary: (1) Isolated nasal diphtheria, that is diphtheria originating in and confined to the nose, occurred in 95 out of 3000 cases of diphtheria (1.5%) admitted to hospital; (2) it is most frequent in young children and in the cold months of the year; congenital syphilis is a predisposing cause. (3) The great majority of cases run a mild course, but rare examples of toxæmic diphtheria confined to the nose undoubtedly do occur. (4) The habitually mild course of isolated nasal diphtheria has been proved to be due to auto-immunization. (5) Chronicity is a characteristic feature of the disease, the persistence of the bacilli being explained on anatomical grounds. (6) Sequelæ occasionally occur, but are rare. (7) Treatment by anti-toxin is indicated. Local treatment should be avoided. (8) The term fibrinous rhinitis should be reserved for those comparatively rare cases in which this form of rhinitis is due to other causes than the diphtheria bacillus. (9) The practical significance of isolated nasal diphtheria consists, in its epidemiological importance.

Proceedings of the Australasian Medical Boards.

NEW SOUTH WALES.

The Medical Board of New South Wales have dealt with four disciplinary cases at its April sessions.

In the first case, heard on April 2, 1917, the complainant, Mr. Arthur Kench, an officer of the Board of Health, charged Dr. Thomas Benedict Clune with having been guilty between November 1, 1916, and March 1, 1917, of infamous conduct in a professional respect. He alleged that Dr. Clune practised medicine under the employment of, and in the establishment of, one Max Gotch, who was not a person registered as a legally qualified practitioner, and that he aided and abetted Max Gotch to attract practice by a system of extensive public advertising containing his, Clune's, name, address and qualifications, and further that Dr. Clune, by correspondence, prescribed for, or recommended treatment for country people whom he had no opportunity of seeing. The complainant craved the Medical Board to remove the name of Thomas Benedict Clune from the Medical Register of New South Wales.

Arthur Kench stated in evidence that Max Gotch carried on a business at 541 George Street, Sydney. He had kept this business under observation for some time, and had caused an inspector to visit the premises on January 15, 1917.

On January 19, 1917, he visited the premises in company with two detectives. On the front of the building were the words "Herr Max Gotch, Medical Herbalist," and among other signs on the building, on the window and elsewhere were the following words: "Herr Max Gotch, Consulting Herbalist, Botanic Dispenser, Men, Women and Children's diseases, famous Herbal Remedies" . . . "a trial of our Vitality Pills, two week's treatment 2s. 6d., a sure cure for the smoking habit. Our famous Kidney and Liver Pills possess rare curative properties in all diseases of the kidneys and bladder, 1s. 6d." . . . "Male and Female diseases, children's complaints. Specialistic diseases in men and women, weak men made strong; Ophthalmic Optician." . . . "Dr. T. B. Clune, Lic. R. Coll. Surg. Ireland, Lic. A. Coll. Phys. Edinburgh; hours 10 a.m. to 12 a.m., 2 to 6 p.m. and 7 to 9 p.m.; Saturdays 10 a.m. to 1 p.m. and 7 to 9 p.m." He produced a pamphlet entitled "A Complete Herbal Guide to Health, by Herr Max Gotch. Herbs, their Uses and Properties." Across the front of the pamphlet were the words "Dr. T. B. Clune, Lic. R. Coll. Surg. Ireland; Lic. R. Coll. Phys. Edinburgh. The recognized leading specialist in private diseases in men and women, expert consultation free, price 1s." The pamphlet contained an advertisement dealing with rubber goods, with soluble quinine capsules, with famous herbal remedies and with Vitality Pills. Reference was also made to gonorrhœa. On the inside page the name of Dr. Clune was repeated, and the words "Consultations free, personally or by post," were added. The following sentence also appeared: "All remedies posted unobserved, in sealed box and plain cover." On page 6 there was an advertisement dealing with rupture liniment—"Price 5s. a bottle. By post 9d. extra. Cured in three months of a bad double scrotal rupture." There was also matter dealing with superfluous hairs, thin people and red noses, and a number of testimonials. In regard to consumption there was the statement, "Herr Max Gotch's Concentrated Herbal Compound Cough Remedy, a certain remedy for coughs, colds, influenza, catarrh, croup, whooping cough, bronchitis, consumption, asthma, old-standing coughs, night coughs, hoarseness, loss of voice and all affections of the bronchial tubes, prepared from standardized herbal extracts only, price 2s. 6d. per bottle." In another place the following statement appeared: "Electricity, the ruling motive power and life of man, brought to a high standard of perfection through years of study and research. With the use of Herr Max Gotch's latest discovered electric medical appliances, no shock or jar is experienced, making electricity in no way dangerous to the system, but producing a soothing influence, elevates animal heat by increasing the circulation. As this electricity enters the body, disease quickly dies under its truly miraculous power."

Witness interviewed Max Gotch and elicited from him that a medical practitioner, Dr. Clune, was practising in the institution. Dr. Clune appeared at his request, and stated that he was a legally qualified medical practitioner, and that he was the manager of the business. He was paid £6 a week by Mr. Gotch. He had been in Gotch's employ since December, 1916. Gotch admitted that he was neither a registered medical practitioner, nor a chemist. In regard to the advertisement of an up-to-date operating theatre, Gotch had admitted to witness that it was not ready. In reply to a question, he had said that he supposed that the announcement was merely advertising bluff. Dr. Clune admitted to him that a pamphlet which was lying on the counter dealing with Gotch's Electric Vitality Pills, contained a reference to him, in which he was described as "an eminent scientist."

Witness produced copies of various daily newspapers containing advertisements of Max Gotch's business. An advertisement in the *Evening News* contained the following statements: "When others have failed, men and women consult Max Gotch and our doctor, who is a legally qualified registered medical practitioner. Skillful and personal attention to all cases. Advice free. Our consulting and dispensing department is in the hands of a professor of medical botany and a legally qualified medical practitioner, who is a noted physician and surgeon, and our operating theatre is the most up-to-date in the Commonwealth. We specialize in '606' and other injections."

Cross-examined by Mr. McLaughlin, the witness stated that he had received certain complaints, and had laid these complaints before the Director-General of Public Health, who had approved of his taking a certain course of action. The witness did not consider that Max Gotch's business of a herbalist was a legitimate business. Max Gotch had no medical knowledge. Counsel pressed the witness to express an opinion as to whether a man who is not a legally qualified medical practitioner could have some medical knowledge. The Chairman interposed, as he held that witness had given a sufficiently clear answer. Witness considered that the form of advertising was misleading to the general public. Dr. Clune called himself "the recognized leading specialist in private diseases of men and women." Some of the claims made in the book appeared to be ridiculous and misleading. As an instance of this, he read the sentence: "Bad case of gonorrhœa cured in 14 days, after all other remedies failed." He was further cross-examined in regard to herbalists' business in general, but refused to commit himself, as he had no medical knowledge. After having replied to some questions concerning the signs on the house, he justified the charge of extensive advertising by stating that the advertisements appeared in the *Evening News* and in *Sunday Truth*, and that the leaflets and pamphlets were available for anyone who passed the premises. The advertisement referring to the operating theatre had been published for about seven weeks before his visit, and was withdrawn ten days after.

Mr. McLaughlin asked witness whether he knew that Dr. Clune had been very sick for a year prior to his entering with Gotch, and that he had seven children. Witness knew nothing of this. He was also unaware that he had been a chemist before he became a legally qualified medical practitioner. He did not know that his age was 65 years. He was aware that there was a branch business at Bondi with the name of Gotch, but did not know that a registered chemist was in charge. He had reason to believe that it was otherwise.

Robert Horne, an Inspector attached to the Department of Public Health, stated that he went to the premises in George Street occupied by Max Gotch in the afternoon of January 15, 1917. On entering, he met Max Gotch, who asked him what he wanted. He replied that he wanted to see the doctor. He waited for a short time. Dr. Clune came in and asked what the trouble was. He said that he felt run down and that he thought that there might be something wrong with his heart. He was taken into a room at the back. Dr. Clune examined his heart with a stethoscope, and then said to Gotch, "I think there is a little palpitation there. Listen!" Gotch took the stethoscope and listened. Dr. Clune asked him several questions,

and both he and Max Gotch felt the back of his head. He was told that he was completely run down, but that they could fix him up. A course of treatment extending over ten days would cost £1 1s. The two left the room to consult, but Dr. Clune came back shortly afterwards and asked him whether he drank. He denied this, but admitted that he smoked heavily. He asked whether he was married and what work he was engaged in. Witness told him that he was a tea traveller, and Dr. Clune asked whether he had to drink the tea. Clune advised him to go about a bit at night, "go down to Manly" and that sort of thing, and go to the theatres at night. He asked whether witness would have pills or liquid medicine, and agreed when pills were chosen. On his return he handed the pills to Mr. Kench. On cross-examination he admitted that he had gone to Gotch's premises on instructions from Mr. Kench.

Mr. McLaughlin moved to have the information dismissed, but the Board, after hearing his arguments, were unanimously against dismissing the case.

Thomas Benedict Clune gave evidence. He stated that he had been in practice with Max Gotch since November 27, 1916. Before going to him he had made enquiries in regard to the nature of the business, and had taken advice from a friend as to whether he was justified in going there, not as an assistant, but in the position of doctor. It was his intention in the first place to put his plate on the window, and arrangements with arrived at with reference to his taking rooms as private consulting rooms in the premises. He stated that he had nothing at all to do with the country prescribing. He did not see any correspondence, but he had seen letters coming from the country asking for certain medicines to be sent. All the medicines were put up "the same as any proprietary medicines," and that was the only thing he had to do with the country medicines. He might put up some medicine and keep it in stock, and when a letter came, of course the medicine was sent away, "the same as a chemist sends Clement's tonic away." He was asked what cases he saw, and stated that some abstruse cases came in which Mr. Gotch saw; probably Gotch saw them prior to him. There might be some very bad cases of syphilis, and Gotch would ask him to give his opinion. Gotch and he would have a private consultation together, with the result that he probably suggested giving certain medicine. He did not take charge of any syphilis cases that came in. He remembered Mr. Horne coming in. After examining his heart he had told him that there was palpitation, a weak heart and nervousness. He thought it was a case of neurasthenia. He had seen other herbalists' shops, and had heard people say that they would rather be treated by a herbal chemist than by a doctor. He had his own medicines in the shop. He knew nothing about the herbs, and had nothing to do with them. Gotch handled the herbs.

He had been in medical practice for 30 years, and was 65 years of age. He had been ill for eight or nine months, and had been unable to do anything at all. He had a large family, and had failed to get any other appointment. Owing to his delicate state of health, he could not attend to the same professional business he had formerly carried on. He saw an advertisement by Gotch for a chemist, and applied for the position. He had served his apprenticeship in chemistry in the big shops of Sydney before he had taken up the medical profession.

He was cross-examined by Mr. Bathgate. He stated that his health prohibited him from undertaking local work or medical work at the Military Camps. He considered that he earned his pay at Gotch's. He was not kept going "too much" during the day. He was very badly ruptured. He could not suggest that he could be cured by herbs. Asked whether the pamphlet had his professional sanction, he replied that he had nothing to do with it. Mr. Bathgate suggested that a lot of the stuff in it was mere charlatanism. Witness would not agree to this. He did not suggest that rupture could be cured in the way suggested in the pamphlet. The passage in the pamphlet read: "Rupture Liniment. Herr Max Gotch's Rupture Liniment, price 5s. a bottle, cured in three months of a bad scrotal rupture." The witness stated that he could not say whether this could or could not be done. Mr. Bathgate pressed witness to express the opinion that the statement was false and mis-

leading. The witness maintained that he did not know anything about it. He did not think rupture could be cured by a liniment, but would not positively say that the statement was absolutely false and misleading. Later he said that liniment could not possibly cure rupture. After being further pressed, he gave the following evidence:—

Q.—Will you answer my question whether a man who advertises is a mere charlatan?

A.—I should say he was speaking an untruth.

Q.—Would you call him a charlatan?

A.—It depends on what you mean by that.

Q.—From your knowledge of the meaning of the word, would you call him a charlatan?

A.—What do you mean by charlatan? I think I told you that I disbelieved that anything like that could be done. You might as well ask me if I would consider him a rogue straight away.

Q.—Would he be a rogue?

A.—I would not say he is a rogue; I would say it is a mis-statement.

Q.—Would you say he is a charlatan?

A.—I would not say he is a charlatan.

Q.—You won't say he is a charlatan, a man who puts forward a statement like that?

A.—No, many people put a lot of things on paper and we would not call them charlatans.

Q.—I give you your own interpretation of the term.

A.—You are asking me to call a man a name I won't.

Q.—Cutting out Max Gotch, if a man puts forward a thing like that, is he a charlatan?

A.—Yes.

Mr. Bathgate read a sentence from the pamphlet, as follows:—"Herr Max Gotch's famous Concentrated Herbal Mixture. . . . is certain remedy for coughs, colds, bronchitis, consumption."

In reply to a question, witness admitted that the cough mixture would not cure consumption. It might remedy it by easing the cough, but it would not be a certain remedy.

In further cross-examination, Mr. Bathgate required the witness to describe the method of consultation between himself and Max Gotch. Max Gotch saw patients, and if he thought that Dr. Clune's assistance was required, the latter would be called in to make a diagnosis or to advise in another manner. Witness stated that it was not exactly consulting; Max Gotch would ask questions and would suggest certain things. Witness saw about a dozen patients a day. Max Gotch was present on nearly every occasion. He treated particularly syphilis, gonorrhoea, and a few cases of stricture. In reply to the question, "I suppose you appreciate that you are simply the tool in the hands of a business man?" he stated, "Well, not exactly the tool; no, I would not say that." Mr. Bathgate read from the pamphlet the following: "Having mastered these two great powers" (medical botany and electricity), "my methods are quick and certain, and so-called incurable complaints are quickly removed and natural vitality restored," and asked witness whether he thought that medical botany and electricity could do what was claimed for it in that paragraph. The witness replied that it could to a certain degree. He knew this from what he had seen, and from testimonials. Mr. Bathgate continued reading "in electricity, the ruling motor power and life of man, brought to a high standard of perfection through years of study and research. With the use of Herr Max Gotch's latest discovered medical electric appliances, no shock or jar is experienced, making electricity in no way dangerous to the system, but producing a soothing influence, elevates the animal heat by increasing the circulation." As this electricity enters the body, disease quickly dies under its truly miraculous power." Witness admitted that he did not understand what the paragraph meant. Later, he said that he thought that electricity would have that effect. In regard to the last statement that "disease quickly dies under its truly miraculous power," he would not say that it was exactly true, nor that it was false. He had never seen Gotch using electricity. They had had no application for it.

After further similar evidence, the witness stated that it had never struck him that he was there simply to help

Gotch to evade the law. He admitted that it was ethically wrong to associate himself with Gotch, but he would not admit that it was disgraceful. He was poor in health and poor in pocket, and had consulted his friends, including legal friends, before taking this position. He complained that the proceedings had been taken against him without any warning. Mr. Bathgate asked him to make a statement concerning the following announcement: "Consultations free, personally or by post, all remedies posted unobserved in sealed box and plain cover." Witness said he knew nothing about it. He admitted that it would have been disgraceful and dishonourable, had he participated in that course of conduct. Referring to the claim that Max Gotch's famous Concentrated Blood Purifier, Purifying Sarsaparilla, which was warranted to cleanse the blood of impurities, etc., witness stated that he believed some of the things claimed for this drug, but not all. After being pressed, he admitted that the claims were extravagant, but not false or misleading. He was also cross-examined in regard to an ointment and some tablets used for chronic ulcers. He admitted that putting the medicine in a sealed box might suggest secrecy.

Witness was further cross-examined in regard to the danger of patients forming their own diagnosis and obtaining treatment through the post, and also in regard to the claims of Gotch for an alleged remedy for corpulence. Witness admitted that if a medical man had published the claims for this form of treatment it would constitute disgraceful conduct. The remainder of the cross-examination consisted in the repetition of certain questions to which witness had not given a clear reply. He was re-examined, and stated that when he was making arrangements with Max Gotch, he told him distinctly that he did not want his name to appear in any advertisement, because they did not allow any advertisements. He was also asked various questions in connexion with books on medical botany.

The Board, after listening to arguments from both Counsel, intimated that their decision would be deferred.

On April 24, 1917, the Acting-President of the Medical Board announced that the New South Wales Medical Board had considered the charge against Thomas Benedict Clune, and the evidence in the matter. It appeared to the satisfaction of the Board that Thomas Benedict Clune had been guilty of infamous conduct in a professional respect. The Board therefore removed the name of the said Thomas Benedict Clune from the Register of legally qualified medical practitioners.

On April 2, 1917, the Medical Board of New South Wales enquired into a charge of infamous conduct in a professional respect on the part of Dr. Percy George Carte.

Arthur Kench, an Officer of the Board of Health, stated in evidence that he had made personal investigation into a business carried on in the name of Dr. Percy George Carte at 267 Elizabeth Street, Sydney. He stated that on the outside of the premises were the words "Dr. Percy George Carte, Milton House, Walmere Institute, Drink Habit Cured." On another part the name of Dr. A. H. Cooper appeared. On another panel were the words "Dr. Percy George Carte, L.R.C.S.I., L.M.R.C.S.I., specialist in nerve and blood diseases." On the window were the words "For the cure of blood and skin affections of either sex, consultations free; hours, Mondays and Fridays, 10 to 12.30 and 2 till 5 p.m." Other advertisements appeared on the outside of the building. Witness paid a visit to the premises in company with a detective and an Inspector of Public Health on January 25, 1917. He saw Dr. Carte in the consulting room, who stated that he was a legally qualified medical practitioner. He did not own the business. He was employed by a Mr. Setchell, and received £400 a year for his services. Setchell admitted that he was not a legally qualified medical practitioner. In further conversation, Dr. Carte stated that he had written a book entitled "Health and Vigour," and that he was the Dr. Carte referred to in this book. He also admitted that he was the Dr. Carte referred to in the advertisements in the daily press relating to 267 Elizabeth Street, Sydney. He elicited from Dr. Carte that cases of general debility, impotence and venereal

diseases were treated at the establishment. He visited an office in the upper story, where there were four ladies typewriting. One of the ladies was copying a letter dated August 14, 1914, to send it to a Mr. Patrick Farelli. The letter from which the copy was made was a dirty stock letter with a heading Dr. H. W. Cooper. Dr. Carte signed the letter, and stated that it suited the case. Mr. Setchell handed him a letter marked "O," in which reference was made to Dr. Carte's appointment as doctor to the Institution, and to the death of Dr. Cooper. There was a rubber stamp with Dr. Carte's signature for use in connexion with the business. In a room at the rear of the office there was a large quantity of medicine.

Mr. McIntosh cross-examined the witness in regard to the letter addressed to Patrick Farelli. Witness stated that he was not competent to judge whether the letter contained anything radically incorrect. Counsel suggested that there was considerable similarity in the contents of the letter and in the contents of a book by Dr. Richard Arthur entitled "Choice Between Purity and Impurity." Witness replied that he had not seen the book. One book might be written for profit and the other might be for public interest. He gave a similar reply to a question referring to the publications of the White Cross League. After further questions, Counsel asked whether there was anything wrong in the statement, "Dr. Carte knows how the weak man may be made strong and healthy." He asked whether there was anything objectionable in that. Witness stated that he thought that the whole of the advertisements was objectionable. He considered them exaggerated as advertisements, and misleading. The book had a face value of 7s. 6d., but was offered for sale at the establishment for sixpence. Witness added: "That appears to me to be a system of advertising which is not sincere." In further cross-examination Mr. McIntosh referred to the fact that there were paid doctors in his Department, and that there were doctors who received salaries at hospitals and from organizations, such as the Druids. Witness replied that in the case of the hospitals some medical men were paid a salary, while others occupied honorary positions for the general good. The doctors who received payments from the Druids did not belong solely and wholly to this organization, and they saw the patients in their own homes, or in their surgeries. He did not think that it was a common practice for a patient to ring up a doctor, telling him of his symptoms and getting him to prescribe for them.

Ernest Arthur Mortimer Fairbairn, a police constable, deposed to having visited Dr. Carte's place of business in Elizabeth Street on January 22 and 24. He was acting under instructions. He asked to see Dr. Carte, and told him that he was suffering from a "leak down below." Both Dr. Carte and another gentleman examined him, and Dr. Carte told him that he needed treatment. He replied that he was not prepared to undergo treatment at the time, as he had not sufficient money. They told him to call again on Wednesday and informed him, in reply to his enquiry, that the fee would be £1 1s. On January 24 he again visited the premises under instruction, and paid £1 1s. for medicine and advice. In reply to Mr. McIntosh, he admitted that there was nothing the matter with him. He did not take the medicine; he gave it to Mr. Kench.

On April 24, 1917, the Acting-President of the Medical Board announced that the New South Wales Medical Board had considered the charge against George Percy Carte and the evidence in the matter. It appeared to the satisfaction of the Board that George Percy Carte had been guilty of infamous conduct in a professional respect. The Board therefore removed the name of the said George Percy Carte from the Register of Legally Qualified Medical Practitioners.

(To be Continued.)

Medical Matters in Parliament.

WESTERN AUSTRALIA.

On July 26, 1917, the Honourable J. Duffell sought information in the Legislative Council concerning the work-

ing of the venereal clauses of "The Health Act Amendment Act, 1915." The question and answer are as follows:—

Venereal Diseases—Diagnosis and Treatment.

Honourable J. Duffell asked the Colonial Secretary: (1) What facilities have been provided under "The Health Act Amendment Act, 1915," so that adequate and accessible diagnosis and treatment be brought within the reach of all sufferers from venereal disease? (2) What inducements have been given to patients to report and receive suitable instruction, both for their own sakes and for the greater safety of the community? (3) Have any instructions been sent to Local Boards of Health having for their object the enlightenment of the public as to the dangers of these diseases, and the great necessity for patients reporting in the first stages of the disease for treatment? (4) Has any medical officer of the Health Department delivered suitable health lectures to the public? (5) If not, why not?

The Colonial Secretary replied: (1) The following special provision is being made:—At Perth Public Hospital—(a) Two new 12-bed wards for in-patients. (b) The conversion of four rooms to be available for the treatment of out-patients. At Kalgoorlie Hospital—(c) A new 8-bed ward for male in-patients. (d) The conversion of an existing ward to give suitable accommodation for out-patient treatment. At Fremantle Hospital—(e) The erection of a special out-patient department. Items (a) and (b) are practically completed, items (c) and (d) are to be completed by the end of August, and item (e) should be finished before then. At all of these centres the most modern methods of treatment will be followed, and facilities given to medical practitioners who so desire to see these methods in operation. The Department has prepared and issued to all medical practitioners a booklet giving full particulars of these methods, and also directions as to how best to take advantage, in the treatment of these diseases, of the assistance of the Bacteriologist. In addition to the arrangements as above described, at Perth, Kalgoorlie, and Fremantle free treatment has been available since the inception of the Act, at any Government hospital, or subsidized hospital in the State, or from any District Medical Officer. In order that such may not place any strain upon hospital finances the Public Health Departments repays to a hospital the cost of any treatment given. Stocks of the expensive arseno-benzol preparations are maintained by the department, and are distributed to hospitals and D.M.O.s. for use upon their patients. (2) Large quantities of literature have been published and distributed through every available channel with a view to informing the public of the seriousness of venereal disease, and the need for sufferers obtaining prompt and skilled medical attention, and explaining the facilities provided for doing this. Of the principal booklet issued, some 15,000 copies have been sent out. (3) A circular was at an early stage sent to local health authorities, explaining the provisions of the amending Act, and forwarding copies of the booklet issued. The need for public education was stressed, and it was urged that the literature be distributed as widely as possible. (4) and (5) The Commissioner of Public Health has not delivered any public lectures, but by invitation has addressed a number of gatherings on the subject of venereal disease. It is not the function of the Commissioner to indulge in a campaign from the public platform, and as the position of medical officer is vacant, and has been so for some eighteen months, there is no other officer avail-

able for such duty; the department welcomes any attempt on the part of public bodies to educate the community on these matters, and will assist in every way possible, believing that in certain directions lectures by responsible non-official persons may do more good than similar utterances by officials whose time and energies are more than fully occupied with administration.

Obituary.

WILLIAM ROBERT ASPINALL.

In the *London Gazette* of June 18, 1917, the following notice appeared:—

Military Cross.

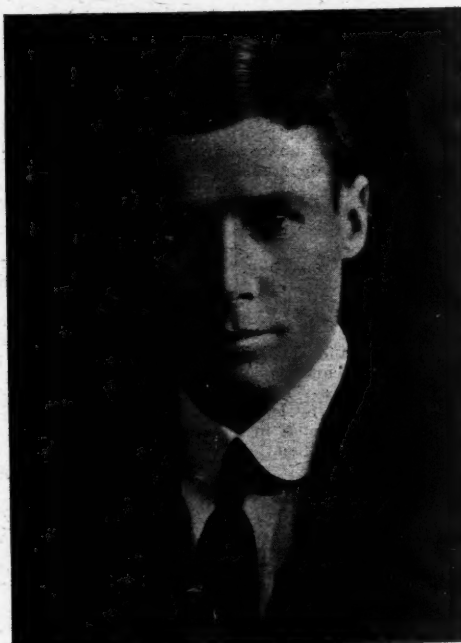
Captain William Robert Aspinall, A.M.C., attached Field Artillery.

For conspicuous gallantry and devotion to duty. He displayed the utmost courage and devotion in tending

the wounded under heavy fire, assisting them to places of safety until they could be evacuated. He showed the

greatest gallantry throughout. On July 20, 1917, this brave officer was killed. We have no information concerning the details of his death. The fact has set many hearts aching.

William Robert Aspinall was born in 1893. He was the youngest son of the Rev. A. A. Aspinall, M.A., late Principal of the Scot's College. "Bobbie," as he was always known among his friends, was educated at the Scot's College, and laid a solid foundation for his future career. In the course of time he entered the Sydney University, obtained a credit pass in his fifth year, and took his degree in medicine and surgery in 1915. While at school he was recognized as a fine athlete, and obtained his school "blue" for football, cricket and tennis. At the University he again distinguished himself in sport, obtained his "blue" for football, and was elected Captain of the University Football Team. He was given his inter-State football "blue." As a student he was extremely popular, both with his colleagues and



with his teachers, and everyone had a good word to say for "Bobbie." His colleagues elected him the Honorary Secretary of the Undergraduates' Association, and gave him evidence in a thousand and one ways of the affection in which they held him. One who knew him well said of him that "his presence seemed to pervade the whole Medical School; no one was better known nor more popular than he at the school." His clinical studies were conducted at the Sydney Hospital, where he became Resident Medical Officer after graduating. Early in 1916 he joined the Australian Imperial Force and proceeded to Egypt. After a short period of service he was taken seriously ill with pneumonia and, on recovery, was ordered back to Australia. He begged to be sent to England, and those in authority could not resist the insistence of his demands. A returned officer has said that it was only his pluck that pulled him through. After a time in England he went out with the First Field Ambulance, attached to the First Field Artillery Brigade, and, as the notice quoted above demonstrates, behaved as everyone who knew him, was certain that "Bobbie" Aspinall would behave.

Vital Statistics.

BRISBANE.

The Government Statistician of Queensland has published the vital statistics of Greater Brisbane for the month of June, 1917.

There were 445 births registered during the month. This number is eight less than that of the corresponding month of the previous year. The birth-rate expressed as an annual rate was 31.68 per 1,000 of population. Four twin births and one triplet birth were registered during the month. There were 33 illegitimate births. The illegitimate birth-rate was equivalent to an annual rate of 2.34.

The number of deaths registered during the month was 171, while the number registered in June, 1917, was 170. The death-rate expressed as an annual death-rate was 12.24. The number of infants under one year of age who died was 19, and the infantile mortality was therefore 44.94 per 1,000 births.

From the tabulated statement regarding the causes of death, we learn that 40 persons died of affections of the cardio-vascular system, including 20 of organic diseases of the heart, and 13 of cerebral hemorrhage. There were 11 deaths due to pulmonary tuberculosis, five to pneumonia, four to broncho-pneumonia, three to diarrhoea and enteritis, two to diphtheria, two to influenza, and one each to tetanus, syphilis, acute rheumatism, simple meningitis, epidemic cerebro-spinal meningitis, acute bronchitis and acute gastritis. Cancer was responsible for 19 deaths, while Bright's disease was responsible for 10 and acute nephritis for three deaths. There were six deaths associated with the puerperal condition.

Correspondence.

THE DUTY OF MEDICAL PRACTITIONERS.

Sir,—I thank Dr. Rosenberg for his correction, and apologize accordingly to the profession. Answering his question, I say, "eligible" in my case meant "fit for military service." Let all who scan the list of dead you publish in the last issue, gird up their loins, and fight the fight at home in the same spirit that the noble dead have done and fallen.

Yours, etc.,

F. TIPPING, M.B., Ch.B.

Kaniva, Victoria,

August 4, 1917.

INTERMEDIATE CLINICS.

Sir,—There is a proposal afoot to establish an intermediate special clinic for ear, eye, nose, throat, and skin to provide for patients of the status between the hospital class proper and those able to afford the usual specialist's fees. The clinic to be open to any member of the British Medical Association who practises solely in one of the above named specialties; to have one or more pathologists, radiographers, and anaesthetists attached, and arrangements for dental treatment and admission to private hospitals for operation at reduced rates. The clinic to be open each night of the week, one member from each specialty to sit on one night, and so on with the rest in rotation.

Fees to be half a guinea per visit. Fees for special treatment, e.g., X-ray, to be settled by members of each specialty, as also a scale of charges for operations, etc.

The idea apparently is to make the clinic self-supporting, with possibly a margin of profit for the members, in ratio proportionate to the work done by each, checked by a system of case sheets, etc.

I have had thoughts in my mind of some such scheme for a good while, and think there is the germ of a very good idea in it, but will not be able to be present at the meeting to discuss the matter, hence this letter.

As against the scheme as formulated above, it seems to me that if it is regarded too much from a money-making point of view, there is not much in it, since, as regards border line cases (apart from occasional cases requiring X-ray therapy, expensive vaccines, etc.) one might just as well be treating them privately at a reduced lump sum, as, in fact, one often has to do in special, as in general practice. But from the point of view of thorough investigation for diagnostic and therapeutic purposes in the more obscure cases, I think some such scheme would fill a great want, both for doctor and patient.

As is truly said, a single case thoroughly investigated teaches more than fifty incompletely worked out. How often would the ophthalmic, nasal, aural, and general surgeon, physician, and dermatologist like the opinion of one another, or of the radiographer or pathologist in cases unable to afford too much that way, and on this account not so fortunately situated as the hospital patient, where such further opinions are available.

The idea in my own mind was that of trying to establish a clinic open to every member of the British Medical Association practising as a specialist in Sydney. To be open all day, and every day, definite hours to be appointed for every member, perhaps one or two consecutive hours only in each week, at which one or more members from each specialty should attend simultaneously; each to show only a limited number of cases; opinions to be free of any charge, the patient only paying a single fee for the advantages derived, such fee to go towards financing the clinic.

Treatment, as decided on, then to be carried out privately; or the patient, if unable to afford this, to be treated at the clinics. Rather than members expecting any financial return, a membership fee to be charged if necessary. The compensation to the doctor for time spent to be in the experience and deeper insight gained in the connecting up of the apparently disjointed links in the chain, and in the *quid pro quo* received in the form of help and advice in his own cases; though perhaps in this regard, as it hardly applies in the case of the pathologist or radiographer, these would perhaps need to be appointed with a salary.

Now, I have not enough practical experience of such matters to know whether such a scheme is practicable; but such a suggestion may provoke further suggestion and improved ideas till something workable is obtained.

The Polyclinic in London charges a membership of a guinea, but is not worked on the lines suggested above, being more in the nature of clinical gatherings, lectures, and demonstrations of cases for post-graduate study.

The Mayo Clinic in America I have never attended, but understand there is a complete staff of specialists employed to investigate every case.

With the present trend of State legislation regarding medicine, I think there is room for some such small beginnings of clinics, and even hospitals controlled entirely by the profession.

Yours, etc.,

ERIC POCKLEY.

193 Macquarie Street, Sydney,

August 7, 1917.

POST-GRADUATE INSTRUCTION.

Sir,—A move has at last been made in Melbourne in the matter of establishing post-graduate classes by the holding of a series of lectures on venereal diseases. Those of us who are anxious to keep up-to-date in our work, naturally hope that either the University or British Medical Association will take the matter up and continue the start that has been made, and follow up with courses in other subjects, which, perhaps, would be even of greater value to the general practitioner. The matter has for too long been left to private and individual effort. At odd times classes in bacteriology and physiology have been held, and for the last few years a few of us have been attending at the Pathological Museum of the Melbourne University, where the kindness and courtesy of the Professor of Pathology have allowed and enabled us to go through a regular and systematic series of pathological museum specimens. During the last three months a few of us have been attend-

ing a series of lecture-demonstrations in anatomy given by Dr. Lister, the Assistant to the Professor of Anatomy in the University of Melbourne. This course, too, was privately arranged. Instead of this irregular method of post-graduate instruction, the medical teaching bodies should arrange for at least quarterly series of lectures in all the principal branches of medical knowledge. Moreover, the classes should be limited to at most ten members, and should be made as practical as possible. At the same time, the fees charged should not be too high—for example, the fee £5 5s. for eleven lecture-demonstrations is far too high for say the resident of a hospital, who probably receives the princely pay of £50 per annum, and it would be these men particularly who would be most anxious to attend post-graduate classes. There are in the University of Melbourne several endowed lectureships, and there is very little doubt that the necessary arrangements could be very easily made with these lecturers, and regular courses of instruction arranged. It is quite time that we had in our larger Australian cities a system of post-graduate work similar to those that are recognized institutions in continental universities, and which are established in various forms in London and other British cities. I would be pleased if you would bring this matter forward.

Yours, etc.,

J. LEON JONA.

Melbourne, August 7, 1917.

SIZE OF BRAIN AND INTELLIGENCE.

Sir,—In your issue of the 23rd June you published a leading article entitled "Size of brain and intelligence," which was obviously intended to form a piece of constructive criticism on the work of the present writers which appeared, in a preliminary form, in the same issue of the Journal, and for which we thank you.

Unfortunately, your leader writer falls into some of those very difficulties with which he correctly states the subject is fraught. He points out that, according to Dr. Anderson, there may be a disparity of 43% between the actual and the calculated brain capacity. What Anderson's tables really show is that the error of the calculated capacity may range from 26.5% less than the actual to 16.5% more. Clearly, the error cannot occur both ways in the same individual.

It must not be forgotten that Miss Lee has herself tested her formula on many crania, and claims for her method an accurate reading to within 4%. Even Anderson's results show that in two-thirds of the cases Lee's formula gives the estimated brain capacity to within 7.5% of the actual, and to within 10 or 15% in the remaining third of cases. Lee's method is, therefore, the most accurate yet known to us, and the possible error being known can be allowed for.

Your leader writer further states that our present work is an endeavour "to correlate estimated increases in size of the cranial cavity with estimated increase in intelligence, and that this assumes that an increase in the size of the brain is mainly to be attributed to those portions of the cerebrum and cerebellum which are the seat of intellectual faculties."

This is exactly what our work is not. That there is necessarily a correlation between size of head and intelligence requires no proof from us, for it is clear that if the new born child's head does not increase in size, the child will remain throughout life what it is at birth, and that is the equivalent of a microcephalic idioty.

The assumption upon which we are now proceeding is not, therefore, the correlation of size of head and intelligence at all, but the much more important idea that as mental development is dependent on brain capacity, striking deviation from the normal in brain size will tend to be associated with mental abnormality. This assumption would appear to be in strict conformity with everything that biology, evolution, embryology, and medical science generally, have to teach us as to the relationship of mind to brain matter. It is in no way disturbed by the facts, to which we have repeatedly directed attention, that mental dullness, even to idiocy, may occur in either microcephalic or macrocephalic heads, as may also genius. Both are explicable on neurological grounds, but the mass of combined physical and psychological evidence already in our possession is tending to show that mental dullness is more fre-

quently associated with microcephaly than with macrocephaly, whilst the converse would appear to be true, within limits, for genius or great mental ability. It is, therefore, incorrect to say that our methods stand or fall by the degree of correlation between size of head and intelligence.

The real object of our investigation is to discover whether abnormal mental types can be picked out, provisionally and in the first instance, by head measurement and brain calculation. If such provisional results be confirmed, in say 75% of cases, by subsequent mental tests and teachers' judgements, then it should be clear to every unprejudiced person that the work is of the utmost social and economic value. The evidence already in our possession leads us to believe that with a combination of the three lines of examination just enumerated, it will be possible to pick out, with a precision never previously approached or surpassed, the possible social inefficients of adult life from the abnormal types of school life.

When it is further remembered that the annual growth of the brain, as now determined by us on the living subject and for the first time, agrees with the physiological work of Bolton, Watson, and others, as to the meaning and development of the supra-granular and other layers of the cerebral cortex, there is given to the work a social significance, which is as real as it is terrible, for it proves, to us, at all events, that Nature never intended the majority of children to leave school at an age determined by the scientifically ignorant politician, and that as a result thereof education, as presently conducted by democracy, tends to place a premium on what Professor Karl Pearson described so recently as 1914 as "the biggest problem of the modern State, social inefficiency."

It is, therefore, essential to know, what hitherto we have not known, the normal limits of brain capacity for each year of growth during the educational period of life. Up to the present one of us (Berry) has been almost wholly concerned with the determination of these age norms. When this phase of the investigation is completed, a distinct scientific advance will have been made, for then, but not till then, will future investigation on the lines herein indicated be rendered possible.

In conclusion, we may state that in the collection of sufficient data—and our incomplete observations already number nearly 6000—in the testing of formulae, in the treatment of results, and in the subsequent application of psychological tests, we hope to neglect nothing which will make the age norms of cerebral growth sufficiently reliable for future scientific and educational use. It is in this sense, and in this sense only, that we claim for the present investigation an acceptability hitherto unobtainable by previous analogous lines of research.

Yours, etc.,

RICHARD J. A. BERRY,
S. D. PORTEUS.University of Melbourne,
10th August, 1917.

PRURITUS VULVÆ.

Sir,—I should be glad to receive suggestions for treatment of a case of pruritus of the left lower half of the vulva in a young, healthy woman. Duration of disease 15 months. Patient has never had any serious illness. There have been three confinements, all normal, the last 19 months ago. Menses regular, painless, 6-8 in 28, no leucorrhœa. Pelvic organs normal, except very slight cervical tear. Urine contains no sugar. Bowels open daily. The pruritus is absent during menstruation, but at other times appears without apparent cause, and often lasts till the next period.

Treatment tried: (1) Local—*Lot. plumbi*, hazeline, tar, carbolic, zinc and other ointments, *Tr. iodi*, *Lm. aconit.*, *Tr. benzoin. co.* (2) Internal—*Calc. lact.*, iron, alkalies, arsenic, valerianates, bromides. (3) Dietetic—Restriction of meat, condiments and stimulants.

Yours, etc.,

"ENQUIRER."

August 9, 1917.

Proceedings of the Australasian Medical Boards.

SOUTH AUSTRALIA.

The following have been registered under the provisions of "The Medical Act 1880" as duly qualified medical practitioners:—

Hugh William Bell Cairns, M.B., B.S., Adel., 1917.
John Besley Gillen, M.B., B.S., Adel., 1917.
Guy Austin London, M.B., B.S., Adel., 1917.
Frank Howard Beare, M.B., B.S., Adel., 1917.
Alan Reid Bean, M.B., B.S., Adel., 1917.
Arthur Kyle Gault, M.B., B.S., Adel., 1917.
Brian Formby Moore, M.B., B.S., Adel., 1917.
George Harry Kendrew, M.B., B.S., Adel., 1917.
Eric Lindsay Symons, M.B., B.S., Adel., 1917.
Harold Whitridge Davies, M.B., B.S., Adel., 1917.
John Newton Webb, M.B., B.S., Adel., 1917.
James Alexander Rolland, M.B., B.S., Adel., 1917.
Eric Elihu Broadbent, M.B., B.S., Adel., 1917.
Norman Bruce Hall, M.B., B.S., Adel., 1917.
Sydney O'Neill, M.B., B.S., Adel., 1917.

Medical Appointments.

The Board of Public Health, Victoria, has approved of the appointment of Dr. Walter Cecil Marsden as Officer of Health for the Borough of Port Fairy, Victoria.

Dr. East has been appointed Honorary Surgeon of the Fremantle Public Hospital, Western Australia. The appointment is to date from June 2, 1917.

During the absence on military service of Dr. W. E. Blackall, Dr. E. S. Humphrey has been appointed Medical Officer of Health to the Peppermint Grove Road Board, Western Australia.

The following appointments were made on July 26, 1917, to the Adelaide Hospital:—

Honorary Gynecologist—James Alex. Greer Hamilton, M.B., L.R.C.S.
Honorary Assistant Gynecologist—William Alfred Verco, M.B., B.S.
Honorary Physician—Arthur Henry Gault, M.D.
Honorary Assistant Physician—William Ray, M.B., B.S.
Honorary Assistant Physicians—Constantine Trent Champion de Crespigny, M.D., and Samuel Roy Burston, M.B., B.S.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
TASMANIA. (Hon. Sec., Belterive, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.

Branch.	APPOINTMENTS.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute. Warwick Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Penrith, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

- Aug. 21.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Aug. 24.—Q. Branch, B.M.A., Council.
Aug. 28.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Aug. 29.—Vic. Branch, B.M.A., Council.
Aug. 30.—S. Aust. Branch, B.M.A., Branch.
Aug. 31.—N.S.W. Branch, B.M.A., Branch (Ordinary).
Sept. 5.—Vic. Branch, B.M.A., Branch.
Sept. 5.—Central Southern Med. Assoc. (N.S.W.).
Sept. 7.—Q. Branch, B.M.A., Branch.
Sept. 11.—Tas. Branch, B.M.A., Council and Branch.
Sept. 11.—N.S.W. Branch, B.M.A., Ethics Committee.
Sept. 13.—Vic. Branch, B.M.A., Council.
Sept. 13.—N.S.W. Branch, B.M.A., last day for nomination of two Candidates for election of Federal Committee.
Sept. 14.—N.S.W. Branch, B.M.A., Clinical.
Sept. 14.—S. Aust. Branch, B.M.A., Council.
Sept. 18.—N.S.W. Branch, B.M.A., Executive and Finance Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.
Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.
All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.